

THE NATIONAL INSTITUTE OF INDUSTRIAL PSYCHOLOGY



TWO STUDIES IN SUPERVISION

MESSRS. EXE & CO.

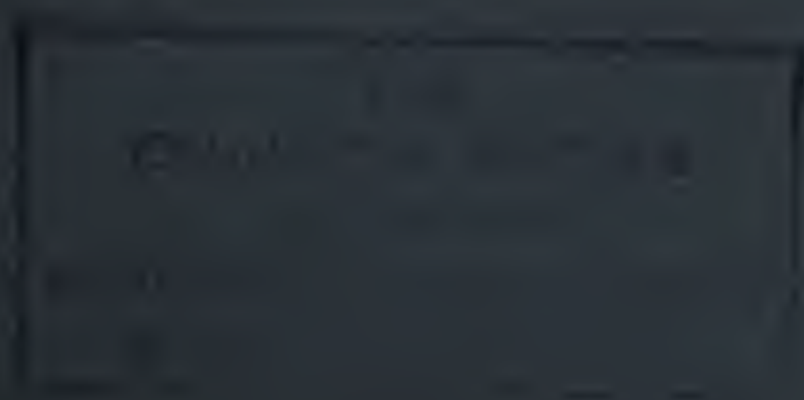
BY

ELIZABETH LIVINGSTONE

SUPERVISION IN A COTTON SPINNING FIRM

BY

JOHN D. HANDYSIDE



PUBLISHED IN LONDON BY THE
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14, WELBECK STREET, W.1

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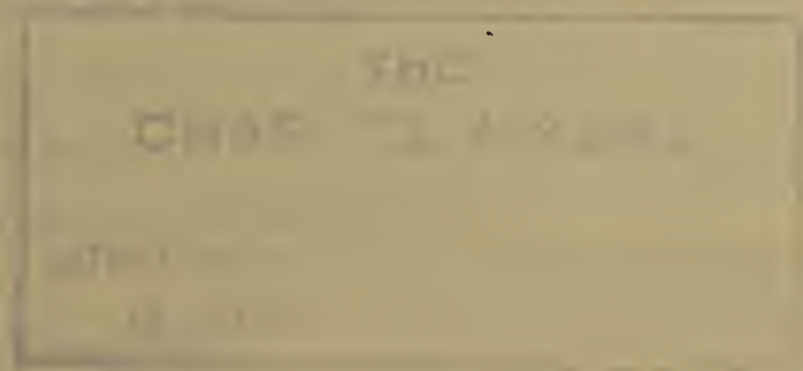
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FOREWORD

THE two studies presented in this booklet have arisen out of the Institute's inquiry into the status, selection and training of supervisors, a research initiated in 1948 by the Human Factors Panel of the Committee on Industrial Productivity, and continued with funds provided by the Medical Research Council.

The investigators undertook these studies primarily to increase their insight into the problems of the supervisor ; they set out to observe such problems over a period in two firms, and to analyse the varying demands which the work of the supervisors made on them. As their findings may be of interest to others who seek knowledge in this field, it has been decided to offer them for publication.

In the case of the major study, 'Supervision in a Cotton Spinning Firm', the investigator worked in close association with the firm for a total period of one year. The short study which precedes it involved three months' field work, followed by a series of weekly supervisors' conferences at which the investigator's findings and problems of supervision generally were discussed.

Through the courtesy of the two firms concerned, the investigators were given complete freedom to carry out their studies as they wished; they were at liberty to observe the work in factory and office, to ask questions, study records, attend meetings, and hold confidential interviews with managers, supervisors and operatives. From the material so collected the two case studies which follow were gradually built up. For the sake of anonymity various minor details have been amended and the firms themselves have been given fictitious titles.

It remains to thank the managers, supervisors and operatives who co-operated so willingly in this research project ; their patience, candour, and interest made the work of the investigators a very real pleasure.

MESSRS. EXE & CO.

This is an account of some problems of supervision in Messrs. Exe & Co., a firm of 600 employees engaged in a luxury trade in Greater London. The term supervision is here used in its widest sense, to include higher management

as well as foremen, as the problems to be described were due to a temporary lack of understanding between the two groups, which increased the difficulties at the higher level no less than at the lower.

THE FIRM'S HISTORY

The Company was founded in 1890, and for thirty years its affairs went particularly smoothly. It had a monopoly in its specialized field of manufacture; it had a near-monopoly, too, in the local labour market, so that the supply of high-grade workers was more than equal to the demand. Its senior management team remained stable and unchanging for thirty years, and was composed of men whose personal qualities made them universally popular on the shop floor. When they died in the early 1920's they were sincerely mourned, and the older employees still speak of them in the warmest terms.

The second thirty years of the firm's history has been much more troubled. Soon after the founders died the firm's monopoly was broken, and although the rival firms which sprang up were few in number, competition soon became keen. The management structure never regained the stability of the first phase. Deaths were frequent among the senior executives, so that a sense of continuity of leadership was difficult to maintain, and loyalties comparable to those formed in the firm's earlier days had little chance of developing. The last of these deaths, which occurred shortly before the end of the second World War, precipitated a complete reshuffle of the higher management team and a minor crisis in the firm's history.

Throughout the war the firm had been under contract to the Government, its normal trade having succumbed to the demands of austerity. Now with victory in sight the new management was faced with the task of getting the firm back on to a peace-time footing. Neither the Managing Director nor the Works Manager had had any experience of peace-time production

methods, nor had they much knowledge of the personalities on the shop floor with whom they would have to deal. Their task therefore was not easy; they had to establish themselves as leaders of the firm and at the same time learn what it was they were trying to lead. They had also to see that the firm emerged from the reconstruction process as an efficient productive force which would successfully meet the exigencies of the post-war world.

Their obvious source of information on production methods was the supervisory team, which throughout all these vicissitudes had remained substantially unchanged. Unchanged, that is, as regards its composition, but no more proof against the effect of major upheavals than men and women ever are. The sense of security of the middle-aged supervisor is affected more by changes in management than by any other single factor, particularly if his experience has been gained in a small and highly specialized industry. The fact that the country is in a state of full employment may reassure his operatives, but it means little to him; he knows that his best prospects are likely to lie where he is, in the firm where he is known to 'know his stuff', and that outside the context of that firm his experience will lose much of its value. It is small wonder then if major changes in the higher ranks of management tend to shake his composure, and if his peace of mind is not easily regained until the attitude of the new team becomes clear and friendly relations are established.

In the case of Messrs. Exe & Co. it was easier for the Works Manager than for the Managing Director to achieve this good relationship with the supervisors. His duties involved daily con-

tact with them, and in order to fulfil his role at all he had to draw on their experience. He sensibly made no bones about confessing ignorance when the occasion demanded it: the supervisors enjoyed 'putting him wise' and soon each side had the confidence of the other. The Managing Director's situation was much more complicated. His task of re-establishing the firm in its former place in industry involved many outside contacts and much time spent in his office; visits to the factory were necessarily few. In the eyes of the supervisors, therefore, he remained a comparatively remote figure with little knowledge of what their work involved; his attitude towards them remained unknown, and their tension in his presence persisted.

In such a situation it is easy for motives to be misinterpreted and for misunderstandings to arise; when attitudes are unknown they are apt to be guessed at. In this case the supervisors put two and two together and arrived at an answer which filled them with resentment. They had known for some time that in the view of the new managers the factory would have to be brought up to date if the firm was to keep its place successfully in the post-war world. Now, from a few chance remarks, they formed the disturbing impression that they, as well as the equipment, were thought to be old-fashioned, and that it was the intention to build up a new team of younger supervisors who would be trained in up-to-date production methods. Shortly after the birth of this suspicion, events occurred which were regarded as confirming it; Training Within Industry was introduced and all supervisors were required to attend; a forewoman was dismissed, and another without explanation gave in her notice. Rumour had it that this was all part of the modernization process, and that it might be anybody's turn next.

Human beings differ from one another in their need to express their feelings. With some supervisors the tension caused by these misgivings soon became intolerable; when an oppor-

tunity presented itself to 'speak their mind' to the new managers, they took it; and were immediately reassured. The ice once broken, communication between them remained free and open. The majority, however, did not voice their misgivings, which thus persisted, creating a barrier between them and higher management which made any true communication between them difficult.

The Managing Director meanwhile had for some time been conscious that he was at odds with the supervisors, although not fully aware of the cause. He was guiltless of any intention to slight them; the general question of improving the firm as a productive force was certainly much in his mind, but wholesale changes in the supervisory staff had at no time been envisaged. His desire to improve relations with the supervisors was sincere, but he was at a loss how to set about it. There were twenty-two supervisors, and he was a busy man; to tackle them individually seemed impracticable.

His final decision was to set up monthly conferences, to be attended by all supervisors and all members of higher management. The intention of these meetings was to create a two-way channel of communication between the two groups; he and his colleagues would use them for enlightening the supervisors on matters concerning the higher policy of the firm, and it was hoped that the supervisors would use them for the airing of grievances as well as for discussing problems connected with their work.

But as so often happens where there are psychological barriers to communication, this form of joint consultation proved only partially successful. As the months went by, the managers found themselves doing most of the talking, while the supervisors for the most part played a passive part. Only those supervisors who had already 'broken the ice' with their managers made the full, constructive use of the conferences which had been intended.

THE PERIOD OF THE INVESTIGATION

When the investigation started in the spring of 1951, the new managers had been in office for six years. There had been several additions to the original team. Costing and Personnel Departments had been set up, and a Production Manager had been appointed to take over some of the more routine duties of the Works Manager, who was in indifferent health. There had been additions, too, to the supervisory force, but the majority of the pre-war team was still in action.

Many improvements had been made in the operatives' conditions of work. Holidays had been increased from one week with pay to two; rates of pay were higher in comparison with the local average than they had been before the war; welfare arrangements were good, and there was a flourishing social club. Relationships, too, between operatives and their supervisors were in general very good, and many of the operatives expressed themselves as well content with the firm as a place in which to work.

THE FOREWOMEN

The morale of the supervisors, however, was not high. This was particularly true of the women, who formed about half of the total supervisory strength. The reason for this was mainly a question of pay. As in many firms, the rising wages had benefited the operatives more than the supervisors, and as in Messrs. Exe & Co. the forewomen were paid at a lower rate than the foremen, they were the more adversely affected. It was no uncommon event in fact for the pay of the forewoman to be equalled or approached to within a shilling or two by her better pieceworkers, and occasionally she might

be beaten. While such a situation may be acceptable enough in a firm where the degree of skill at the operative level is high, as for instance in the engineering industry, in the case of Messrs. Exe & Co. the production jobs were relatively simple while the duties of the supervisor called for a considerable degree of responsibility, and in some departments for qualities of intellect and initiative as well. An illustration of the work of one department will serve to show the difference in complexity between the two tasks.

THE WORK OF 'B' DEPARTMENT

'B' Department made what for purposes of anonymity will be called sachets, which were sold in bulk to other manufacturing firms. The sachets were made in a variety of sizes, shapes and materials, and were moulded on automatic presses: those made of thin materials could be moulded in 'nests' of anything up to thirty at a time; those made of thick materials could only be made in small nests, or in some cases singly.

The orders reached the forewoman from the production office. The necessary amount of material was then requisitioned from the stores, and was sent up to the department in the form of flat sheets. There it was interleaved in accordance with the number required in the nest, and was sent to the cutting department to be cut to

the necessary shape. On return the shapes were prepared for moulding by bringing them to a required degree of humidity; they were then fed into the presses, and finally packed.

The production jobs therefore, consisting as they did of interleaving, machine feeding, and packing, were not mentally exacting; provided one's fingers were deft, one's thoughts could range, for a good part of the day at least, as the fancy took them. With the forewoman the situation was very different. Her day's work called for a highly complex mixture of technical, administrative and social skills, which can best be made clear by describing her work in some detail.

Administratively, the forewoman was in effect the works manager of her department. It was left to her entirely to plan her own production, both as it affected the firm's customers and as it affected her own operatives. The customers who bought her products were important ones from the firm's point of view, and it was expedient therefore for as many of them as possible to be kept happy at once; this involved executing and delivering large orders in batches, so that smaller orders for other customers would not be too long delayed. Meanwhile, each of her operatives had to get her fair share of the better paying classes of work. The machines in the department varied in speed of operation, so that it was possible for the pieceworkers to earn more on some machines than on others; no operator therefore worked two consecutive days at the same machine. Each day the forewoman planned the next day's work for each operative, and handed her a note of the machine she was to work at, and of the quantity of each type of product she was to make. This list was compiled by calculating the number of blows which the operative's machine for the day would give, and allocating the amount of work accordingly.

The operatives kept their own work cards from which the amount of their earnings was subsequently calculated, but the forewoman or one of her chargehands cross-checked them with the packers' records. A fair amount of paper work was also involved in requisitioning for materials, making out dockets informing the office of work completed, keeping wages records, and preparing weekly production figures.

The technical demands of her job were also considerable. She had to be able to judge, by the look, feel, and 'crackle' of the material supplied to her, how many sachets per nest the machines would be able to manufacture satisfactorily. Too few would damage the machine tool, and too many would cause the machine to clog; either event would put the machine out of action for a considerable time, so that errors of judgment were expensive from the production angle. Accurate judgment in this respect was

the fruit of experience, and could not be acquired by rule of thumb methods; two lots of material which were nominally of the same quality and weight, for instance, might still require different treatment through divergencies of bulk and texture.

Meanwhile the human relations aspect of her work was always with her. She had under her three chargehands, one in charge of packing, one of interleaving, and one who assisted her with routine record checking. The work force consisted of forty-three women, who varied widely in age and experience; almost one-third of them had worked in the department for over twenty years, while at the other end of the scale was a shifting population of youngsters who came, tried the work, found it too slow, and moved off in search of other adventures. The two groups, as can be imagined, were not entirely compatible; the older tended to regard the younger as frivolous and undisciplined, with no sense of the value of their jobs, while the younger complained that the old hands "thought they knew everything because they've been here a long time, while really they just haven't had the courage to try for anything else". Many of the women were married, and were running homes in addition to their work in the factory; the temptation towards absenteeism was therefore strong.

It took skilled supervision to make an effective working unit out of this highly diversified material, but the forewoman succeeded in doing so. Her administration was strict, but scrupulously impartial; the operatives worked secure in the knowledge that not only would they get a fair deal themselves, but that nobody else would be able to pull any fast ones. Many of those interviewed spontaneously mentioned their high opinion of the forewoman; their comments included "so patient", "always the same, never upset", "the fairest person I've ever met", "gives you your work and leaves you alone, very nice that way", "she sometimes ticks us off certainly, but that's when we've made a mistake; and when she does she's

all right again next minute—she never holds a thing against you”, “very sympathetic” (followed by a long story of sympathetic treatment when the operative’s husband was ill).

This supervisor therefore was successfully fulfilling a role which was incomparably more exacting than that of her operatives, and it was discouraging for her to see, week after week, the small margin of difference between her pay and theirs. It was this difference, rather than the amount of the pay itself, which was the point at issue with the forewomen as a whole;

as often happens, the rate of pay was regarded, quite apart from its monetary value, as a means of assessing the esteem in which the supervisory grade was held by management, and as it was so little different from that of the rank and file, the conclusions which they reached were depressing. The general opinion was that the game of being a forewoman was not, these days, worth the candle, and that the pieceworkers, who could earn their money with an easy mind, were a great deal better off.

THE FOREMEN

As already mentioned, the foremen were less adversely affected by the pay position, and they were consequently less sensitive about their status in the firm. Their position had indeed sustained fewer threats than that of many foremen in the more highly organized industries. The firm was not unionized, for instance, so that they were the one source of authority on the shop floor. There was no form of employee representation, so that they were the sole link in the chain of communication between management and worker. Although they did not hire their own labour, the advisory function of the Personnel Department was well understood, and they knew that the final decision as to who should or should not work under them was theirs. And like the forewomen, they planned their own production and controlled their own output.

There was little in their functional position therefore to account for low morale, yet the feeling that “nobody knows the troubles I bear” was commonly expressed to the investi-

gator, although in vague and unspecific terms. This seemed partly a manifestation of the old lack of rapport between the supervisors and higher management, but sometimes it seemed to the investigator that the criticism might with some justification be levelled at the supervisor’s own colleagues as well. One of the drawbacks of the high measure of autonomy given to the supervisor in this firm, combined with the somewhat scattered geographical layout of the factory, was that the departments tended to become self-contained units, with comparatively little communication with the rest of the firm. The day’s work did not allow much time for supervisors to visit one another; such communication as was necessary was usually made by telephone, and a few supervisors had never even entered some parts of the factory. It was possible therefore for a supervisor to be working under very considerable difficulties without his problems being fully understood by his colleagues; the situation in one particular department may serve as an illustration.

THE BOX DEPARTMENT

The department made pasteboard boxes, not only for the firm’s own use but for sale to outside firms. Some were made by machine, but the more elaborate and decorative ones were made by hand. The department employed thirteen men and forty-five women, the women

being mostly engaged on handwork and the men on machines. The foreman was assisted by an assistant foreman, an assistant forewoman, and a female chargehand, who kept the operatives supplied with work and taught newcomers.

A proportion of the department's output consisted of standard lines which could be reproduced with little mental effort on the part of the foreman, but much of it was new work which involved preparing prototypes and working out costs. Virtually anything from a needle to an anchor might be sent to the department to be boxed, and the working out of details was left to the foreman; his day was not therefore the peaceful jog-trot of the supervisor in charge of routine production. The department was also affected, perhaps more than any other in the firm, by shortages of materials; the foreman lived a hand to mouth existence as regards his stocks, and often had to issue to his workers materials of a quality which made manufacture difficult. When production was held up as a result and orders were delayed, outside customers would become impatient, and inside customers, that is, the supervisors of other departments who saw their products piling up and their stocks of boxes running low, would join in the hunt. One had only to spend a morning in the Box Department to see the cumulative effect on the foreman of all these demands, each one of which was naturally regarded as of paramount importance at its point of origin; it was small wonder if, as time went on, his response to inquiries grew progressively more short.

Meanwhile his labour problem was also acute. Although like 'B' Department he was lucky in having a stable core of long service employees, the supply of suitable young workers was by no means equal to the demand. This was particularly so where the hand processes were concerned; the work was sticky and messy and was by no means to the taste of every young girl. There had to be compensations therefore if new entrants were to be persuaded to stay long enough to become skilled workers.

That there were such compensations was evident. The department was a cheerful place; above the clatter of machinery it hummed with life, and high-spirited youngsters would sometimes settle happily there although they had

failed to fit into the routine of other departments. The foreman might frown at youthful exuberance, but the fact that he was at heart sympathetic to it was apparent to his young workers, and was appreciated. They realized that though his bark might be gruff, his bite was never wounding; even when an audacious young thing would go too far and call him "Tom", a privilege reserved for older workers, his wrath would be more simulated than real. He realized too that monotony was particularly hard for the young to bear, and made a conscious effort to weave what excitement he could into the day's routine. When a rush order came, for instance, he would deliberately 'create a stir' about it. Instead of a flat issuing of orders he would hurry to his assistant on the shop floor and say loudly something like this—"Here's a thing! So and So's order has to be got out by tonight. How are we to do it? We'll never manage it in a month of Sundays!" At the first sound of the commotion the youngsters would prick up their ears; Tom was in a flap; it was a break, a change, a bit of excitement. By the time the work was actually put in hand they had entered into the spirit of the thing and were ready to co-operate.

Because he thus showed himself to be human, and at the same time kept control of the department, his relations with his young workers were very good. One 18-year-old ingenuously summed up the position saying "I like the way we're treated here. Mr. Dash lets us go so far, but not too far. He can be strict when he likes". Nevertheless the fact that the standard of discipline he imposed was less strict than in some departments tended to incur the displeasure of other supervisors, who felt that invidious comparisons with their own administration might be made. But to 'Tom' it was a choice of using his own particular technique or losing potential boxmakers, and the latter alternative seemed to him the more serious from the point of view of the firm's efficient functioning.

THE COMMUNICATIONS SYSTEM OF THE FIRM

The case quoted above was one in which a closer understanding of one another's problems might have helped to avert criticism and preserve good relations among the supervisors. The machinery for achieving such closer understanding was there, in the form of the monthly supervisors' conferences, but the attitude towards these conferences was still guarded, and few supervisors made constructive use of them. It was clear that the misunderstandings with the senior management had never been completely resolved, and that the fear of repercussions prevented a free airing of opinions in their presence. The few who participated most were women; the attitude of the men can be pretty fairly summed up in the words of one foreman, who said "The conferences would be a very good idea if you didn't have to pull your punches. But I couldn't really speak my mind down there—they'd only remember it against me. It's all very well for them to say they want us to speak out, but they forget we're not protected in any way. It's not so bad for the women—they haven't wives and families to support, but we have". These misgivings were thus forming a psychological barrier to communication in the 'upwards' direction from supervisor to manager; they were also preventing free discussion at the conferences in the 'lateral' direction from one supervisor to another, because however much they might criticize one another in private, their loyalty prevented them from doing so in public, and it was in the presence of their managers that these interdepartmental misunderstandings could most easily have been resolved. The conferences were therefore serving only a comparatively small part of the purpose for which they had been designed; that is, they were performing an informative but not a truly consultative function. Their informative function was indeed valuable, and allowed the supervisors an insight into the higher conduct of the firm's affairs not otherwise accessible to them. They would have been more valuable still, however, if a clearer

understanding had obtained as to how much of the information so imparted was regarded by management as confidential, and how much of it the supervisor was free to impart to his operatives. As already mentioned, the supervisor was the one official link in the chain of communication between manager and worker, a position which, if developed, could have contributed considerably to his sense of status. The supervisor's role in this respect had however never been clearly defined, and the practice in different departments varied widely. In some, for instance, the supervisor made an attempt to report back to the operatives on what took place at the supervisors' conferences; in others, this was regarded as the grossest breach of confidence. Meanwhile, as often happens when the flow of information through official channels is meagre, various unofficial channels flourished. The supervisors complained that the firm's 'bush telegraph' service often informed the workers of decisions made at top management level before these decisions had been imparted to the supervisors. When, as often happened, the operatives approached their supervisors for confirmation of the rumour and they had to confess their ignorance, they felt with some justification that they had lost face. They had also lost a valuable opportunity of acting as interpreters of management policy, an opportunity which would have prevented information from reaching the workers in a distorted form and would at the same time have enhanced the supervisor's status in the eyes of the workers.

One of the drawbacks of the lack of 'upwards' communication between the supervisors and higher management was that if announcements were imperfectly understood when made, no clarification was sought by the supervisors, and misunderstandings were therefore perpetuated. This often resulted in a failure on the part of top management to attract credit to itself where credit was due. A simple example will serve as an illustration. When the operatives' holidays were increased from one

week to two, this left the supervisors, who had always had two weeks, with no advantage in this respect over the operatives. The Managing Director accordingly announced that the supervisors would be entitled to three long week-ends a year in compensation. This was a privilege well worth having, but when the investigation in the firm began it was found that few supervisors had ever taken advantage of it, because they understood that the week-ends were only to be claimed in special circumstances, and that to take one merely for rest or recreational purposes involved asking for it as a favour instead of claiming it as a right. No-one could explain exactly how this misconception had arisen. When eventually it was mentioned to the Managing Director he at once clarified the situation, to the obvious satisfaction of the supervisors. But if communication in the 'upwards' direction had flowed more freely, this misunderstanding would not have been allowed to persist, as it had done, over a matter of years. The case points to the fact that successful communication is always a two-party process, in which the transmitter of the information and the receiver of it must each play his full part. As in wireless telegraphy, the sender must not only transmit, but ensure that his listener is 'receiving him loud and clear', and the listener must equally be relied on to inform the sender whenever he is not sure whether he has understood the message correctly.

ATTEMPTS TO IMPROVE COMMUNICATIONS

The senior managers meanwhile were by no means complacent about their relations with the supervisors. It was their sincere desire that free and frank communication should exist between the two groups, and the passive part played by so many of the supervisors at the conferences showed how far the situation fell short of this ideal. They had publicly announced that free participation was desired and that no comment, however critical, would be unwelcome, but this assurance had had little

Sometimes, too, the senior managers failed to attract credit to themselves because of a laudable tendency to do good by stealth, instead of publishing their benefactions. There was, for instance, the matter of pensions. The firm had no formal pensions scheme, but in practice every long service employee was given a pension privately on retirement although the term 'long service' had never been precisely defined. Because this was done privately, however, the generality of the practice was not known on the shop floor. Some employees were aware that individuals known to them personally had received pensions, and generous pensions at that, but they did not know how they themselves would stand when their own turn for retirement came. One supervisor spoke strongly of the anxiety which elderly employees felt on this score, saying "they keep crawling in to work when they are far too old and ill because they are not sure what will happen to them if they pack up. If there were a proper pension scheme they'd be healthier and happier because less worried, and therefore they'd be efficient for longer, so that really it would pay management". Although this seemed a somewhat exaggeratedly gloomy picture of a firm in which the number of cheerful and active old people seemed to the investigator more than usually high, it seemed likely that this was another case in which relations might have been improved by a clearer definition of top management's intentions.

effect. They had attempted too to build up the morale of the supervisors by making public recognition of any particularly good piece of work. Any supervisor, for instance, who had achieved particularly high output figures would be congratulated by the Production Manager at the monthly conferences. The method employed to measure output, however, was a simple computation of the number of units produced, which was to a large extent controlled by the nature of the orders in hand. For instance, the

forewoman of 'B' Department, whose work has been already described, had several times been congratulated at the conferences for having produced a record number of sachets. These achievements had been, however, largely the result of two factors; firstly, the length of run of the orders which had obviated the loss of productive time which is necessary when machines have to be re-set, and, secondly, the fact that the sachets were of a type which could be manufactured satisfactorily in fairly large 'nests', while some of her products could only be made in small nests or even singly. Her achievements had therefore been to a large extent due to chance. The Production Manager was aware of this, but thought it good for morale that any opportunity for expressing appreciation of good work should be taken. The effect, however, was not exactly what he intended; firstly, because to boost the morale of one supervisor is often by contrast to lower the morale of others, and, secondly, because the supervisor in question, who was an intelligent woman who knew exactly what factors affected her output figures, tended to feel somewhat embarrassed by the commendation, as she felt that it had been undeserved. The standard of effort which she set in her department was uniformly high, and she felt with some justice that she and her operatives had worked no harder in months when record figures had been achieved than in any others.

The Production Manager was nevertheless on the right track in thinking that it was recognition and reassurance which the supervisors needed if their relations with higher management were to be improved. But formal recognition, and reassurance en masse, will never do as much to promote confidence between supervisors and their managers as informal, personal, 'man to man' contacts arising naturally in the course of the day's work. One had only to listen to the nostalgic comments of the supervisors on 'the old days' to realize what they felt to be lacking in their present situation. In the old

days "the managers were friendly"; "we felt we really knew them"; "we felt they really knew us—they'd remember things about our families and that"; "it wasn't that they let us do what we liked—nothing escaped them at all, but if they'd ticked us off about something they'd pop in again next minute and be friendly, so that we knew that things were all right again"; "if they didn't like a thing we knew they'd be sure to say so, so that we always knew exactly where we stood".

It was evident from comments such as these that the psychological distance between the supervisors and the men on whom their livelihood depended had been much less in 'the old days' than in the existing situation in the firm. The exigencies of modern trade conditions were partly responsible for this, tending as they did to confine both Works Manager and Managing Director to their offices more than was the case before the war; much of the routine daily contact with the supervisors was now in the hands of the Production Manager, who being a young man and relatively new to the firm, had not yet acquired the prestige value in the eyes of the older supervisors to enable him to give them the sense of security they needed. It was the Managing Director, the ultimate authority, who could most successfully have met this need. It was to him that appeal was made when things went seriously wrong at the supervisory level, and it was through him that any drastic action, such as the dismissal or demotion of a supervisor, was taken. He was therefore a person of considerable importance in their lives, and a clear understanding of how they stood with him would have done more to promote confidence than any other single factor. But because he remained a remote and incalculable figure in the eyes of all but a few supervisors, their sense of insecurity persisted. The difference to morale which a few chance words of goodwill from him could make may be shown by describing the situation in 'C' Department.

THE SITUATION IN 'C' DEPARTMENT

This was a small department in which fifteen women operated power-driven rotary presses. Almost all were middle-aged and married; nine of them only worked in the factory on a part-time basis and looked after homes and families in their spare time. Their hours of work were arranged to suit their domestic responsibilities, so that it was seldom that all fifteen were present in the department at once.

The foreman was a cheerful, active man of middle age. As well as planning production and maintaining discipline he was his own machine setter and maintenance mechanic; only in major breakdowns did he have to call on the help of the engineering department. The machines were old and somewhat temperamental, but the foreman had amassed an intimate knowledge of their individual idiosyncrasies which made him the key man on whom the successful functioning of the department was almost wholly dependent.

He was as interested in his people as he was in his machines. His knowledge of their idiosyncrasies was almost as comprehensive, and he took a delight in meeting the needs of each as far as he could. A 'difficult case' was a challenge to him, and very seldom did he have to admit himself defeated.

The degree of satisfaction among the workers was impressive. All fifteen were interviewed by the investigator, and almost all commented spontaneously on their appreciation of the foreman, some in most enthusiastic terms. Their comments included "he's the most considerate man I've ever met"; "he doesn't forget to tell you when you've done well"; "he's so friendly"; "he works with us". One, a middle-aged married woman who had never worked in a factory before, said "I dreaded having to work in a factory, but I love it here. George is so nice with us, we'd never dream of letting him down by staying off if we didn't need to. No-one ever slacks here because we wouldn't like to get him into trouble". Others commented on the friendly inter-operative rela-

tions, saying how much they appreciated the fact that there were "no cliques" and "no cattiness". One said "I'd really *hate* to leave. The girls are so friendly and George is so considerate. If the management decided to stop part-time work I'd really break my heart".

It was clear that this foreman had succeeded in creating in this department an atmosphere which not only made work a source of positive satisfaction to the operatives, but was also highly profitable to the firm. The machinists were paid on a time basis; their runs of work were mostly short, so that there were frequent and inevitable stoppages while the machines were being reset, and operatives were expected to employ themselves on hand finishing processes until they could start another run. If the sense of co-operative effort in the department had been less highly developed this might have provided an admirable opportunity for taking it easy, as the foreman, who was at these times fully occupied in his role of mechanic, was not free to exert direct supervision. As it was, however, work at the finishing table proceeded diligently, and never failed to keep up with the output of the machines. It was clearly the accepted and fashionable thing among the operatives to help 'George' and give him every support, and a non-co-operative newcomer entering the department would either have had to conform rapidly to the prevailing mode or find herself in an uncomfortable minority of one. Thus, although changes in its personnel inevitably occurred from time to time, its effectiveness as a working unit tended to remain constant.

The foreman was well content with his job, in that it satisfied his two main interests, in machines and in people. His good relationship with his operatives was one of his chief sources of satisfaction; to him, as to most people, the opinion of others was a matter of considerable moment, and the fact that he was appreciated by his workers acted on him as an incentive to further effort. That he was equally highly

thought of by his managers was known to the investigator, but not, it was clear, to him. The fact that their attitude towards him and his work was more or less an unknown quantity appeared in fact to be the one fly in his otherwise flawless ointment.

It seemed here as if higher management had fallen victim to the busy man's most common sin of omission, that is, of taking no notice of what is obviously going well, and failing to let it be known that lack of attention does not equate with lack of appreciation, a fact which can usefully be stressed even to the most confident from time to time. One day, however, the Managing Director remedied this omission. In passing through the department he stopped and spoke to the foreman and congratulated him on

a certain piece of work, the success of which had depended on the foreman's patience and co-operation. The next day the foreman reported the incident to the investigator with obvious delight, ending by saying "I went home a happy man last night, because I never knew before whether he thought I was any good or not, and it's nice to know he thinks I'm not so bad. He stayed for a bit and chatted too, and we had a laugh about something, and really I feel quite different this morning". It was clear that this short informal encounter with the 'boss' had done more to cement good relations between them and increase the foreman's satisfaction with his job than many more formal and elaborate attempts to achieve these ends.

CONCLUSION

These incidents have been recorded in an attempt to show some of the factors which affected the day to day life of the supervisors in this firm, and their relationships with their managers. It is to be hoped that the impression has not been created that the latter alone were responsible for the lack of accord which existed between the two groups; lest this should be so, a few points must be stressed before this short account is ended.

The lack of understanding of the emotional needs of others was not, for instance, all on the side of the managers. Like most people with a grievance, the supervisors were inclined to let it bulk too largely on their horizon. Pre-occupied with their own need for appreciation, they overlooked the fact that their managers too were human, and might share this human need. They were the first to admit that the good opinion of their operatives was important to them, and that signs of appreciation from the shop floor acted on them as a stimulus and an incentive, but they failed to consider that their own reactions to their managers might have served similar ends, and the fact that these reactions were almost unrelievedly critical made the task of directing the firm correspondingly

more difficult. During the period of the investigation, for instance, several important improvements were made in the supervisors' working conditions; their rates of pay were adjusted so that in every department there was a distinct differential between pieceworker and supervisor; the misunderstanding over the holiday week-ends was resolved; and a clear announcement was made on the matter of pensions. But although the supervisors freely expressed to the investigator their satisfaction at these measures, they seldom reflected upwards towards top management any sign which could remotely be interpreted as encouraging. To regard their managers as unsympathetic had become a habit with them, and habits of mind are not broken in a day. Once formed, indeed, they tend to persist, in season and out, whether or not they are still appropriate to the demands of the moment. It is a useful although somewhat uncomfortable exercise for any of us now and again to examine our longer standing ideas and ask ourselves whether any of them have become outmoded and could usefully be discarded.

To accomplish such a feat of mental discipline is of course not easy, and it is particularly difficult if the ideas in question are shared

by one's immediate working group. The fear of public opinion will sometimes prevent a departure from an accepted position, even when the will to do so is there. This is particularly true where an attitude towards authority is concerned. The fear that we will be accused of 'sucking up to teacher' by no means drops from us automatically when we leave the schoolroom; it can affect our actions when our heads are grey, and can cause us to persist in intransigent lines of behaviour longer than is rationally necessary.

This is another reason why formal meetings, round table conferences, and the like, are seldom sufficient in themselves to take one far on the road to a genuine sense of co-operation between employer and employed. To rely on formal means of communication alone is to weight the odds too heavily against a true expression of opinion. The fear of repercussions already mentioned will militate against it; so will this fear of 'what the neighbours will say'; and ordinary shyness, which can make public utterance an ordeal, has also to be reckoned with. These three difficulties must be faced and resolved before the value, and it is a very real value, of such formal methods of joint consultation can be fully appreciated. The first

and last can best be overcome by the development of the informal personal contacts between higher management and individual supervisors which have already been discussed; the second depends on a conscientious effort on the part of all concerned to give credit where it is due, and to do so openly rather than by the more comfortable but relatively ineffective *sotto voce* methods which so often prevail.

The advance towards good managerial-supervisory relations is not made therefore without serious thought and effort. It makes demands on the time of people who can ill afford it, and it involves all levels in the strenuous activity of 'looking at things from other angles'. But if in the end managers and supervisors can come to regard one another as collaborators in the task of management rather than as opposing forces to be 'dealt with', the energy released will more than compensate for the energy expended.

In firms such as Exe & Co. this is no empty ideal. The goodwill is there in ample measure; managers and supervisors alike abound in estimable human qualities, and only a closer understanding of one another's needs and motives is necessary to make the ideal approachable.

SUPERVISION IN A COTTON SPINNING FIRM

PART I

THE ORIENTATION OF THE STUDY

This paper is intended to describe some of the methods of supervision which were being used in a single large cotton spinning firm in 1951, and the problems relating to these supervisory practices. (The details have been amended slightly, and a false name has been given to the firm in order to preserve anonymity.)

The study described here was oriented towards the human relations problems of supervision and in consequence the technical side of cotton spinning will be discussed only very briefly in order to permit those without a know-

ledge of the organization of the textile industry to be able to grasp the broad context in which these problems had arisen.

The investigator set out to collect information about the problems which faced the supervisor in the firm, and to obtain some measure of the man's success in his work, so that it might be possible to match the ratings of success against personality data about the man, in the hope that this would provide material which would assist in the selection of supervisors in the future.

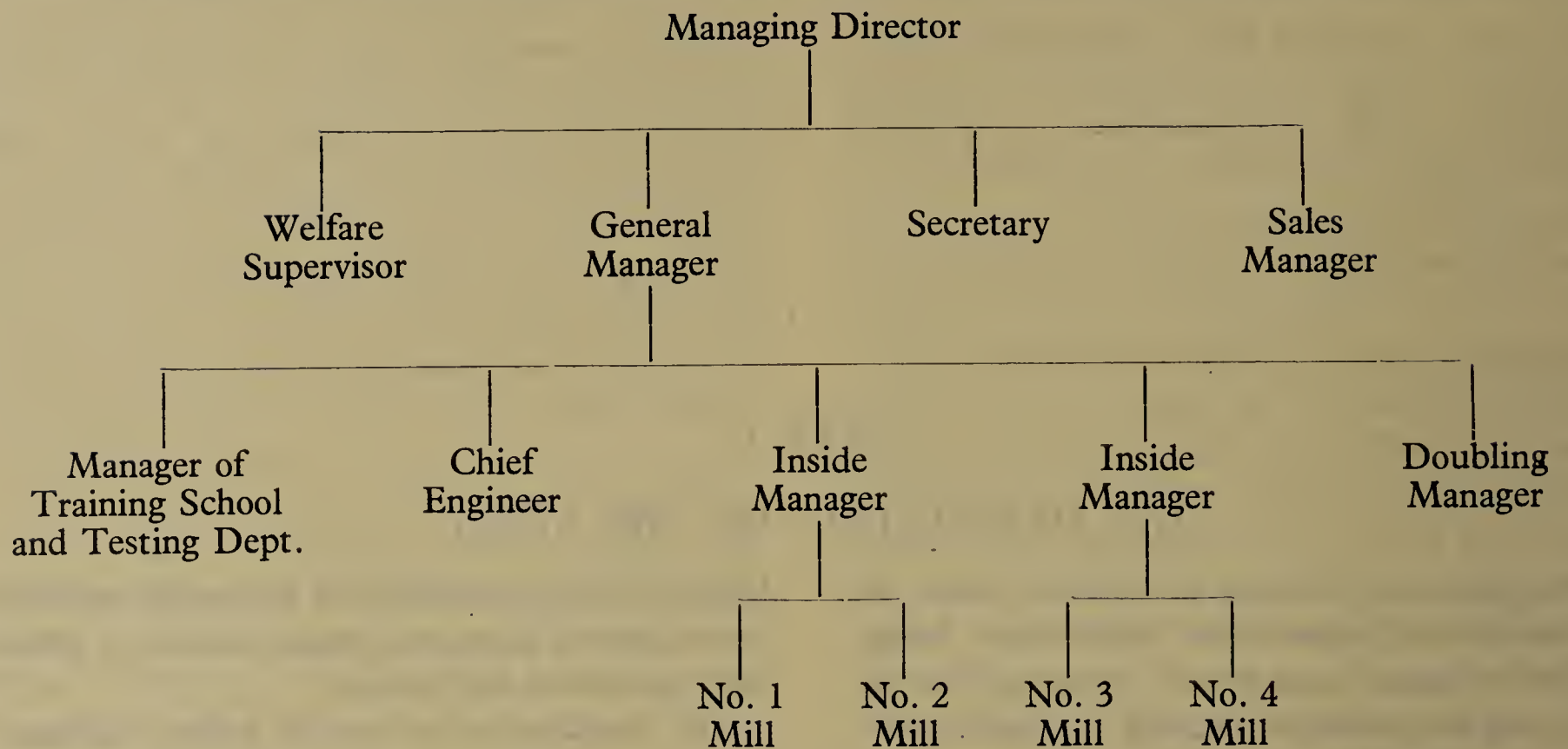
THE FIRM

'Cauldwells & Sons, Ltd.' consisted of four spinning mills and a doubling shed with such ancillary departments as engineering shop, electricians' shop and joiners' shop. It was self-contained to the extent that raw cotton arrived in bales and went through all the processes prior to the actual weaving of cotton cloth. The firm's output was thus, mainly, in the form of yarn which was despatched to customers who wove, knitted and dyed it. Many of these customers were abroad and the firm was very much in 'the export trade'.

The buildings had been built between 1880 and 1906, and were in consequence not well adapted to modern flow production methods, and the architectural separation of sections of some departments added to the difficulties of

some of the supervisors. Many of the machines were nearly as old as the buildings, but there had recently been extensive changes in the spinning and winding departments, and modern methods of high draft spinning and high speed winding were becoming the rule rather than the exception. Many of the older machines had been adapted to keep up with technical developments and were considered to be as efficient as the most up to date machines available. The firm was, in fact, approaching the point at which higher productivity could be expected only by better utilization of the human factor—for, except for complete rebuilding and reorganization for flow production, technical advances did not appear to offer much immediate scope.

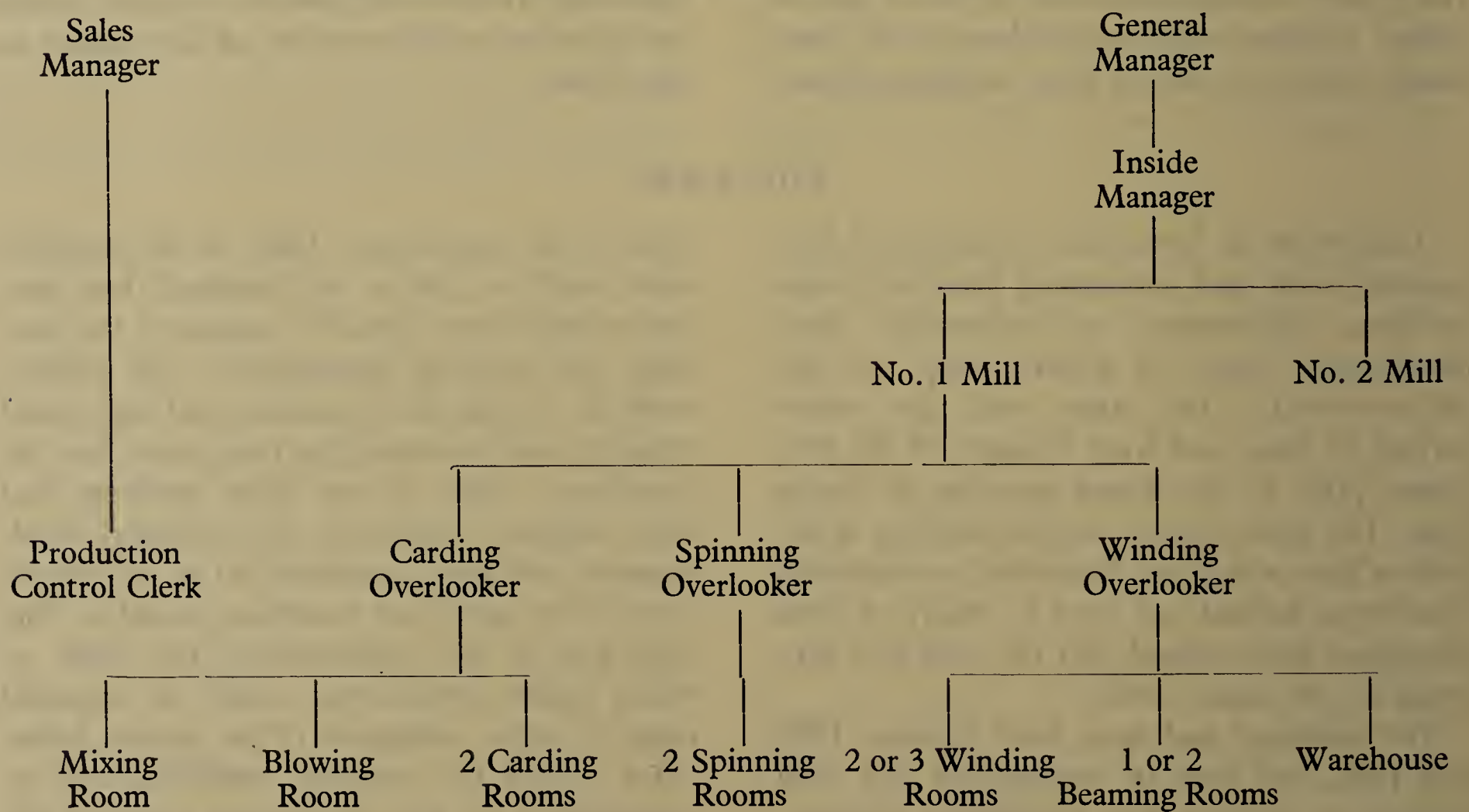
THE ADMINISTRATIVE ORGANIZATION OF THE FIRM



The doubling shed had 270 operatives and the spinning mills employed respectively 410,

385, 475 and 525 operatives; other departments employed less than 70 people each.

THE ADMINISTRATIVE ORGANIZATION OF A COTTON SPINNING MILL



The Carding Overlooker had between 100 and 130 operatives.

The Spinning and Winding Overlookers each had between 150 and 200 operatives.

PROCESSES IN COTTON SPINNING

THE CARDING OVERLOOKER'S DEPARTMENT

Bales of cotton arrived at the warehouse of the mill and were despatched daily to the mixing room of each mill. There they were broken open—examined for quality and the cotton from different bales was then fed into mixing machines in proportions laid down by the General Manager. This allowed uniform qualities of cotton yarn to be prepared from bales from different producing countries—America, Brazil, India, etc.

From the mixing machines the cotton was fed through trunks into the blowing room—during which process some of the sand, seeds and dry leaf were removed. In the blowing room the cleaning process was continued, and the cotton emerged in a sheet about an inch thick which was wound round a central core to form a tightly packed cylinder about two feet in diameter and three feet long. This cylinder, which weighed about 35 lbs., was called a lap.

The laps were taken from the blowing room to one of the carding rooms where they were fed into carding engines which combed the fibres of the cotton to produce a fine web which was then rolled into a loosely packed 'sliver' about an inch in diameter. This sliver was fed into containers which were taken to the draw frames where slivers from several carding engines were combined and drawn out to produce a single sliver in which the cotton fibres lay parallel to each other. From the draw frames the containers of sliver were taken to slubbing frames in which the cotton was drawn out and wound on to bobbins. From these frames the bobbins were taken to intermediate frames on which the slubbings were drawn out to produce an intermediate yarn, of which about 1,500 yards weighed one pound. From these frames the intermediate yarn, wound on bobbins, was transferred to roving frames on which the yarn was drawn out to about two miles to the pound, and was twisted loosely to give it some tensile strength. The bobbins of rovings were then

loaded into wheeled 'skips' and taken to the spinning department.

The carding overlooker was responsible for the whole of this department, and his main responsibility was to ensure that standards of quality were maintained, for the productivity of the rest of the mill depended very largely on the quality of the carding operations. He had some 250 complex machines in his charge, and was also responsible for the direct supervision of about 100 operatives. His operatives were nearly all engaged on routine machine feeding tasks—there were few operations which required team work, but each operative produced material which was later further processed by another operative. The carder was responsible for ensuring that the flow of production was maintained, that the machines were operating efficiently and that the quality of the product was within the permitted limits. Most of the operatives were women; the blowing room was staffed entirely by men, and much of the machine cleaning and all of the machine maintenance and adjustment was done by men.

The overlooker was assisted in his managerial function by a team consisting of two undercarders, a frame jobber, a blow-room major and a mixing room jobber. All these men were technical assistants and had no formal supervisory authority. In fact the two undercarders and the frame jobber were exclusively technical assistants on machine maintenance and inspection, the blow-room major and the mixing room jobber were both working chargehands. Thus the overlooker was the direct authority figure for about 100 women operatives and there were no junior line supervisors.

THE SPINNING OVERLOOKER'S DEPARTMENT

The spinning department consisted of two rooms, each carrying out the same process. It was the function of the spinning department to convert the loosely twisted, thick, 'rovings' from the card room into strong thin yarn. The spinning frames drew the rovings to anything

between 5 and 25 times their length when received and twisted the cotton to give it strength by binding the fibres against each other.

Each woman spinner minded four or five 'sides', *i.e.*, sides of a spinning frame, and each side had about 190 spindles.

The rovings were brought to the spinners and a supply of full roving bobbins was placed on a shelf on the top of the frame; from this supply the spinners kept the frame fully stocked. The yarn from the spinning frame was spun on to small wooden, or in some cases cardboard, bobbins. When these bobbins were full the machine was stopped and a team of five or six women 'doffers' came to the frame and removed the full bobbins, replaced empty bobbins on the spindles, joined the end of the yarn to the new bobbins, and started the machine again. The spinner then took over, patrolling the side, 'piecing up'—*i.e.*, joining—ends when yarn breaks occurred and keeping the machine clear of cotton dust which, if allowed to settle, produced unevenness in the spun yarn. The doffers put the full bobbins into baskets at the end of the frame, and these were collected by male labourers and taken to the conveyor and thence to the winding department.

Spinners worked individually and were to a large extent isolated from each other because of the height of their spinning frames which effectively walled them off from everyone except their immediate neighbours. The doffers worked in teams of five or six and were under the administrative charge of a male 'jobber' who was responsible for seeing that they organized their work in a manner which reduced idle time on the machines to a minimum.

The main work of the jobbers, however, was maintenance and adjustment of the spinning frames. They were the overlooker's assistants, but as in the carding department they had no supervisory authority—except that they were expected to maintain discipline amongst their doffers, though even in this role their authority was very limited—and they were not in the line

of authority between the overlooker and the operatives. The spinning overlooker was thus the direct authority figure for upwards of 120 women and some 25 men, and although he had 6 or 7 jobbers, these men were not regarded as line supervisors. His main task was to ensure an even flow of work, to adjust production to meet the quotas of different qualities of yarn required by the production control clerk, and to inspect the quality of the spinning to remedy faulty machine operation before large quantities of sub-standard yarn were produced.

THE WINDING OVERLOOKER'S DEPARTMENT

The processes in the winding department consisted of receipt of the bobbins of yarn from the spinning department, 'conditioning' of this yarn by immersion in a bath of water, and then winding the yarn on to large bobbins of various types, joining the end of the yarn from one spinning bobbin to the beginning of the yarn from the next one, so that several miles of thread were eventually wound on to a single core. The various types of package produced by these processes were:

Cheeses—large cylindrical packages;

Cones—large tapered cylindrical packages;
and

Warpers bobbins—cylindrical reels of yarn with large wooden flanges.

These packages of yarn were then sent either to the doubling shed or to the department's own beaming rooms, or direct to the firm's customers. Two types of package were used in the beaming rooms, warpers bobbins and cones; the former were used on the ordinary beaming machines, and the cones on the high speed beaming machines.

The function of the beaming machines was to wind a large number of threads on to a flanged cylinder about 4ft. 6in. long, so that a 'beam' was eventually produced which had up to 600 threads wound parallel to each other, and the

total length of each thread was several miles. The completed beams were sent direct to the firm's customers. The yarn on these beams was used to provide the warp of cloth being woven on the looms.

Thus the department received yarn of various counts and quality, wound on to spinners' bobbins, transferred this yarn to other reels, joining up ends so that very great lengths of yarn were wound into a single package, and eventually wound some of this yarn on to weavers' beams. During the course of these processes various amounts of yarn were despatched to customers or to other departments before the beaming process was carried out.

All the winding and beaming operatives were women. They all worked individually, but in contrast to the operatives in the other two departments they were in close contact with a number of other operatives engaged on the same task, and conversation was relatively easy, the noise level in the winding and beaming rooms being much lower than in the carding and spinning rooms. The men in the winding department were either engaged on labouring work—transporting baskets of bobbins, etc.—or were technical assistants to the overlooker.

The winding overlooker was also in charge of

the warehouse or cellar in which the completed beams and crates of yarn in the form of cheeses or cones were packed and despatched. There was a staff of about 10 men employed in the warehouse, and they were led by a warehouseman who was a working chargehand and who was responsible for the paper-work relating to the despatch of beams and yarn to the firm's customers.

Thus the main function of the winding overlooker was the co-ordination of the flow of processes in his department and the matching of the production to the sales department's requirements. To aid him in his work he had an assistant overlooker—who in fact did much of the machine maintenance and adjustment—and a team of jobbers who spent some time on machine maintenance and the rest in the allocation of work to the winding and beaming operatives, and in booking production figures to permit calculation of piecework earnings. These assistants were not, in theory, in the line of authority, but in fact they were the direct authority figures from the operative's viewpoint, although there was no need for operatives to get permission from them before going to the overlooker with any trouble they might have.

THE METHOD EMPLOYED IN THE INVESTIGATION

The investigator spent some twenty-five weeks in the firm—visits of several weeks together being spread over a total period of one year. During the time away from the firm the notes collected during visits were scrutinised and written up in a form suitable for use within the research group. These notes were then discussed with the other members of the research group and suggestions for further lines of inquiry were developed as a result of the comparison of the findings in other firms being investigated.

During the visits to the firm detailed studies were made in all of the four spinning mills and the doubling shed. These studies included an examination of the content of the overlookers'

jobs, carried out by studying the paper-work and tracing all written material to its source and destination, 'shadowing' the overlooker for a day or more while he carried out his normal routines, and holding lengthy discussions with him about the reasons for his actions. A similar study was made of one of the Inside Manager's jobs, although in this case the analysis of the paper-work was omitted.

In addition confidential individual interviews were held with one-sixth of all the women operatives in each department. This sample was drawn at random by taking every sixth name on the list of employees, starting at a name selected by a random number. In addition to this sixth, any operative wishing to come

and talk to the interviewer was encouraged to do so—the number of such additional interviews varied considerably from department to department—it being clear that in one department, where there was a considerable amount of dissatisfaction with the working situation, more operatives wished to talk about their troubles, whereas in another department where only one or two additional interviews were requested, there was a problem of communication which may have caused fewer operatives to hear that they were invited to come and talk about their views.

A few operatives, about ten in all, refused to come to see the investigator. No reasons for this refusal were requested and no pressure was put on operatives to attend. It was noticed that the refusals were usually from the older women operatives, and in a few cases these women nominated a friend to come in their place. It was also found that some women, who felt shy about being interviewed, and refused to come at first, later changed their minds when they had talked to colleagues who had been to talk to the investigator, and who were then reassured about the purpose of the interviews.

An attempt was made to ensure that all occupations in the departments were included in the sample, and where only one or two people were engaged in a particular job their names were added to the list of people asked to attend. In this way a higher proportion of male employees was seen—about a quarter of all the men in the mills.

In addition to these interviews, which varied in length from about 15 minutes to over two hours according to the interviewee's needs, longer interviews were held with all the junior members of the supervisory team, undercarders, jobbers, etc. During these interviews job histories were collected and additional topics such as the man's views of his prospects in the firm were raised by the investigator if they were not introduced spontaneously by the interviewee. All the Works Councillors in each department were interviewed and the particular problems of

their position were discussed, frequently in the light of the information gathered, from the sample interviews, about communication within the department.

On completion of the interviewing programme in each department, the overlooker was seen and a job history was collected, together with a considerable amount of material about his education, family background, interests, satisfactions and views about his future. It was then usual for the investigator to report his findings in general and to discuss the problems which seemed to be most pressing in the department.

All operative interviews were conducted in a small room in the office block of the firm, a few minutes' walk from the mills, or in a room adjoining the Welfare Office. Great care was taken to preserve the confidential character of the interview material. The interview was semi-directed, that is, when interviewees arrived they were asked for their name and occupation and then asked if they had been told 'what this was all about'—in most cases they had been told very little, so the investigator explained the aims of the research, giving it such prestige as attaches to a Government initiated project, and offered guarantees that the material would be reported in such a way as to preserve the confidence of the individuals concerned. Then if the interviewee did not start talking spontaneously, a few general questions such as "And how do you get on with the people here?" or "What do you think about working here?" were introduced. With the younger women it was frequently helpful to ask them about what they had been doing before their present job and so build up a job history. In many cases a question about life at home or spare time interests was the key to opening a spontaneous discussion of attitudes and satisfactions.

In many cases it was found that the provision of a cigarette was repaid with a wealth of attitudinal material which would probably never have been communicated otherwise. It was frequently helpful to proffer a cigarette at the

point at which the interviewee felt that everything had been said and was metaphorically 'reaching for his hat'.

In addition to these formal interviews, numerous conversations were held with the overlookers. The investigator had lunch daily with the managers of the mills, and on one occasion with one of the overlookers in the men's canteen. He also attended several of the monthly meetings between overlookers and the managers and the General Manager. These meetings were held in a private room of a pub near the works and lasted from 7.30 in the evening until after 10.30 p.m. He also attended seven Mill Meetings at which the Works Councillors, overlookers, and managers met in one of the manager's offices and discussed their problems and raised any suggestions or grievances that had been communicated by operatives to the Councillors.

In addition, the investigator was able frequently to sit in the General Manager's office and observe the flow of problems that were dealt with there. This was a most rewarding experience and gave a great deal of insight into the actual, as contrasted with the formal, administrative organization of the works. On one occasion he was present at a meeting between the General Manager and the local Secretary of one of the two main Unions for operatives in the firm, while negotiations about changes of piece rates were in progress, and was able to see the attitudes of the firm to the Union and the Union to the firm. Similar facilities were offered

by the Welfare Officer and the investigator was permitted to sit in her office while interviews with applicants for employment were carried out.

All these sources of information were supplemented by very frequent conversations with the General Manager, the Welfare Officer, the Inside Managers, and General Manager's secretary, and many other informants. In this way, it will be clear that a great deal of material about attitudes within the organization was gathered and it was possible to contrast several people's views in order to assess the reliability of particular items of information. The investigator's unusual role as a scientist dealing with human relations enabled him to have a greater mobility within the organization than would have been possible for any member of that organization. It is a tribute to the high quality of relationships between all levels in the firm that this mobility was possible.

It will be clear that information gathered in this way is extremely difficult to treat in a quantitative manner, but it is the main advantage of this approach that the investigator is able to note not only what is said, but to note also the way it is said, when it is said and in whose presence it is said, although it was sometimes a problem in the Works to hear what was said, because of the noise of machinery. In this way the method has some advantages over the questionnaire method which permits detailed statistical treatment, but which cannot indicate the relevance of the questions asked to the actual problems in the firm.

THE WORK OF THE OVERLOOKER AND THE PROBLEMS HE ENCOUNTERED

It was evident, as the investigation proceeded, that the method of inquiry, although very time consuming, produced a great deal of information about the job of the overlooker. Although only little attention was paid to the technical requirements of the job, interesting comparisons between the technical demands of the three types of overlookers' job were found. From the

selection point of view it was clear that much greater mechanical ability and knowledge of mechanical engineering was required by the card room overlooker than by the other two overlookers. On the other hand, a higher degree of planning ability was demanded of the winding overlooker. The spinning overlooker required a moderate degree of both these abili-

ties, but his work was of a more routine character and he had to be able to tolerate a high degree of monotony.

The main value of the operative interviews was to provide material about the actual human relations problems that were presented to the overlooker. The findings here were particularly useful as they emphasised problems quite other than those usually discussed in human relations training courses for supervisors.

Timekeeping was on the whole good, and only one overlooker complained of difficulties in dealing with this matter. Labour turnover was not regarded as a serious problem—except in one or two ancillary occupations. Relations between operative and overlooker were on the whole satisfactory. Training was undertaken by the firm's training school, and the overlooker was largely relieved of responsibility in this field—though the investigator felt that more attention should have been paid to training on the job, both for those operatives who had recently left the school and had not yet attained a high level of skill, and for men in ancillary occupations.

The Inside Managers expressed surprise when the investigator said that the overlookers did not regard timekeeping as a problem. They also said that labour turnover was sometimes a problem for them—particularly peripheral turnover, *i.e.*, people with only a few days or weeks of service leaving for apparently inadequate reasons, in certain departments. It was characteristic of the extent of acceptance of responsibility by the overlookers that they regarded labour turnover as primarily a problem for the Inside Managers.

The problem that impressed the investigator most strongly was not that of the relationships between operatives and their supervisors, which were rarely sources of real discontent, but the frequency of indifferent or even bad relationships amongst the operatives themselves. This should not be taken to mean that there were many open feuds between operatives—though these existed in some cases. It was clear how-

ever that the very large size of working groups had encouraged small unofficial groupings—sometimes of a temporary character—and since co-operation between these groups was not demanded by the production processes, the relationships between them tended to be of strained tolerance or covert suspicion.

(The managers, when they read this report in its draft form, all said that the investigator had emphasised the problem of inter-operative relationships unduly. The investigator, however, felt compelled to stress the fact that the important problem in relationships was inter-operative relationships, rather than operative-supervisor relationships.)

These strained relationships were important not only because they made life in the mill less happy than it might otherwise have been, but because the lack of friendly competition probably had serious effects on the socially acceptable ceiling of production. There were a number of operatives who were regarded as 'grabbers' because their pay was considerably above the average, and since most of the women operatives were on piece rates, this meant that there was hostility to the high producers. Within the informal groups, however, the high producers had acquired kudos because of, rather than in spite of, their high wages. There was evidence too of hostility towards operatives whose level of productivity fell considerably below the group norm, and one of the most frequent sources of hostile comment was the suspicion that other people were 'getting away with things'.

It is of interest that great care was taken by the firm to ensure that operatives' earnings were kept confidential, and very few workers had any accurate notion of the levels of earnings in other occupations in the mill, or even of the wide range of individual differences between colleagues working on very similar jobs. Some of the hostility to 'grabbers' stemmed from indignation about 'unfair' allocations of material, so that the high producers were suspected of getting preferential treatment in being given

work which, by anomalous piece rate prices, provided more money for equal or even less effort. The hostility to low producers, too, stemmed partly from impatience with the less skilled, less active and less healthy members of the work team, and so was a reflection more of intolerance of less forceful personalities than a conscious condemnation of low production.

It was in the winding and doubling departments particularly that suspicion of 'unfair' allocation of material was most evident. In one of the two winding departments this was still the most serious source of discontent; in the other, many operatives commented very favourably on the recent improvement in this allocation due to a change of the jobber responsible for it. It was clear, too, that similar discontent was felt in the spinning department until re-deployment altered the method of allocation of rovings to individual spinners. A number of informants spoke of actual fights taking place in the days when spinners had to compete with each other to obtain the rovings they needed, and although this had not happened since before the 1939 War, it was still a matter for comment amongst the older spinners. This situation had been remedied by allowing a greater margin of rovings for ready use, as well as by introducing male roving carriers, whose task it was to provide individual spinners with the material they required.

In the background of this conflict about the allocation of work was the refusal of the Trade Unions and the Employers' Organization to permit discussion of wage issues at Works Council meetings. The setting of piece rates, always a thorny problem, was being conducted at a level at which operative opinion had little chance of swaying decisions. In the past piece rates were established on a basis of knowledge of production levels before operatives were put on piece-work. Over the past 5 years this empirical system had been abandoned and a method of logical calculation had been substituted. The managers agreed that the logical system of calculation had given rise to fewer conflicts and

had been better accepted by the workpeople. There were still however a few cases of high anomalous piece rates and these had simply had to be accepted by the management.

It is, of course, almost impossible, and psychologically most undesirable, to adjust rates by reducing the price for a particular type of work. Thus there are good grounds for employers to try to get initial rates set as low as possible and then if necessary make upward adjustments to permit all operatives to earn approximately the same amount. If rates are set too high at first, the employer is faced with the dangerous task of getting the rate cut, and the Union is faced with an opportunity to demand upward changes of all the other rates in order to obtain equitable levels of earnings between operatives.

This background of negotiation had focused attention on the monetary rewards to be obtained from each type of work, rather than on the satisfactions or discomforts entailed by the job itself. Although much was known about the rate of earnings which could be obtained from winding or spinning different counts of yarn, and some at least of the supervisors attempted to allocate work in such a way as to ensure uniform amounts of high and low paid work for all operatives, the inquiries which had been made to find out whether or not operatives classified work into 'good' or 'bad' purely on a basis of the earnings which could be gained from doing it, had not been fully systematized. Inquiries into the uniformity of operative opinion as to the 'goodness' or 'badness' of any particular type of work had, similarly, been made for a considerable time both by the managers and by the overlookers and through the Works Council, but these inquiries had never been fully systematic in character.

It is highly unlikely that a practicable method of piece rate negotiation will ever be fully democratic, but while rates are set by agreement between a manager and a Union official, it is dangerous to insist that rates for all types of work are equivalent and that there is there-

fore no problem of sharing out the work. The operatives themselves believed otherwise.

The question of rate setting is one which is usually delegated by the operatives to the Union, and there is no demand for participation—except that when operatives think that they are being underpaid they go to their Union to get the rate altered. Cotton operatives, however, many of them married women with families, are far from uniformly active in Union affairs—consequently the Union is dependent for information about operative opinion on a minority of workers, who may in many ways reflect atypical opinion. It would therefore be to the advantage of both the Union and the firm to obtain a more fully representative measure of operative opinion about the ‘goodness’ or ‘badness’ of different types of work. This might show that the complaints about unfairness in the allocation of work were due to a faulty measure of operative opinion rather than to lack of consideration by the supervisors responsible.

It must be emphasised that the question of pay was not the source of dissatisfaction—indeed not one woman operative interviewed complained about the amount of her earnings, and many spontaneously expressed satisfaction about their level of earnings. The complaints were always phrased in such a way as to emphasise the feeling that the higher earnings of other workers were due to chance rather than to effort and this was what was regarded as unfair.

Another source of minor dissatisfaction and disagreement between operatives was the question of ‘promotion’ from one type of work to another, *e.g.*, from card tenting to draw frame tenting, from doffing to spinning, from bobbin winding to high speed cone winding. The levels of skill in some of these jobs differ, and consequently the average rates of pay differ. In some cases, however, bobbin winding and high speed cone winding, for example, management did not regard the jobs as demanding different levels of skill and the higher rates of pay on the latter

were due partly to anomalous piece rate prices and partly to demand for a higher level of effort. Consequently there was a problem in transferring workers from one operation to another. There were a number of factors to be kept in mind—the level of skill attained in the lower paid job, the likelihood of increased effort in the higher paid one, the length of service with the firm, the length of service on the present job, and the expressed desire to change jobs.

Management had wisely desired to avoid acknowledging that transfer to higher paid jobs was to be regarded as ‘promotion’. The disadvantages of having operatives in one department graded into a series of ranks, each having different social status, are obvious. The financial rewards of the different occupations were thus the sole recognition by management of the different prestige of the occupations.

For the overlooker, however, this problem cannot be solved by stating that it does not exist. He has to decide who is, and who is not, going to be transferred from, say, bobbin winding to cone winding. Unless he is informed about the aspirations of all the bobbin winders he may well transfer a worker who has expressed a desire to change, when another winder, considerably senior in age, service and skill, who simply hasn’t mentioned her desire to change, is not moved, and who will consequently become disgruntled and may well say that ‘promotion’ is based on favouritism.

The overlooker had no systematic method of finding out about operatives’ aspirations, and when he had to fill a vacancy he asked someone he thought suitable whether she would like to take it. If she did the problem was solved; if however she was hesitant, he had to decide whether to encourage her, or ask someone else, and in that case whom. Similar problems were associated with the refusal of workers to accept vacancies at higher paid and more responsible jobs, who might then, by their presence, radically alter the age structure of groups on particular jobs.

These then were some of the problems of group morale with which the supervisors were faced. The span of control was so large, upwards of 100 operatives to each overlooker, that the group was almost bound to break into unofficial sub-groups, and the relationships between these groups were rarely conducive to friendly competition. Thus norms of production might be developed within the unofficial groups, which might be considerably below the ceiling which individual operatives could attain. It must be made clear, however, that the vast majority of workers were extremely keen on their job and if they were held up by shortage of material or by machine breakdowns they became extremely vocal about their discontents, despite the fact that their wages were made up to average earnings. There was no doubt that most workers were consciously oriented to high production.

This problem of the disruption of the informal groups by transfer of workers was complicated by the slowness of the transferred operative's assimilation into her new working

group. One young doffer, for instance, who was being used to fill gaps in doffing teams in one of the spinning rooms, when other workers were absent, was not sure of the names of her fellow workers even after she had worked with one team of five girls for six weeks. It certainly seemed likely that greater consciousness of the difficulties of entering new working groups would bring the supervisors to pay more attention to introducing new workers to their colleagues.

This discussion of inter-operative relationships has so far been concerned with the women employees. There were also intra-group problems amongst the men. Most of the male employees worked on individual labouring jobs or jobs involving only two or three men, and there was no evidence from the interviews of difficulties between the men so occupied. One group of male workers, however, had a reputation of being extremely difficult to handle, being regarded as un-cooperative, legalistic and restrictive. These were the Strippers and Grinders who worked in the card rooms.

THE PROBLEM OF THE STRIPPERS AND GRINDERS

The strippers and grinders are men who carry out routine cleaning and sharpening of the carding engines. They are recognized as being very active members of the Card Room Association—the Union for all workers in the Carding and Spinning Departments. Indeed at times it seems that they are the Union, and all other workers are members largely in virtue only of their subscriptions.

Stripping and grinding (a single task, not one done by two types of worker) is regarded as a skilled trade, and the Union demands a two-year apprenticeship, although in some cases men who have worked in the Mixing or Blowing Rooms may be admitted to the ranks of journeymen after only 6 or 9 months' apprenticeship. Recruitment to the job is nearly always from occupations such as lap carrying or work in the mixing and blowing rooms. No one is accepted as an apprentice until he is 18,

and this means that all recruits have worked for about 3 years in a labouring job. (The situation is at present further complicated by National Service arrangements.) Carding room overlookers and undercarders are normally recruited from men who have worked as strippers and grinders.

The job itself is found to be monotonous, and the level of skill involved is certainly no higher than that demanded of tool setters in the engineering industry. The working conditions are extremely dusty in comparison with other jobs in the industry, and it is customary to wear a face respirator—although some operatives find that the gauze filter produces an uncomfortably heavy load on their breathing. The men themselves believe that the fine cotton dust is a serious health hazard, and they are supported in this belief by the medical research work on byssinosis, which is significantly more prevalent

amongst strippers and grinders, particularly men who have worked at the job for over ten years, than amongst other workers. Work is at present in hand to relieve this dust hazard, and vacuum stripping is being made standard practice. Air conditioning and filtration has been introduced into some mills (not in this firm), but results are so far disappointing, and in some cases the filtration methods have made things worse rather than better by drawing dust upwards past the workers' faces instead of allowing it to settle downwards.

During the interviews the majority of strippers and grinders expressed feelings of dissatisfaction with their relationships with their colleagues and with the other workers in the mill. These dissatisfactions were vague but bothersome. They could not put their finger on the causes of their discomfort, but they felt that there was a lack of camaraderie and that they were being forced into restrictive practices which made their work less satisfying because of the pressure of opinion amongst their colleagues. (These restrictions had, however, raised their pay to a relatively high level.)

It was not possible for the investigator to make a detailed study of the problem of the strippers and grinders, but it seemed from the information that was collected that the negotiations between Union and Employers' organization had forced attention on to one of the symptoms of the problem and that by attempting to alleviate this symptom had made the problem much more difficult.

Not unnaturally, the Union had taken the view that the crux of the trouble was the rate of payment for the job and had by negotiation achieved a high level of payment for the work. Thus most strippers and grinders were getting about £8 a week, and could earn more by overtime work—either during half their dinner hour or on the evening shift. Thus financially there was little encouragement to compete for the post of undercarder, and the undercarders themselves said that they could earn as much or more than they did by working as strippers

and without bearing the responsibilities of their supervisory work—and although this was not strictly true it was none the less the case that the margin barely warranted the extra responsibility.

The high rate of pay has in fact made stripping and grinding into a dead-end job. A job moreover which is inherently monotonous, and where there is evidence that long service is dangerous to health. It is clear that the strippers and grinders were in a very frustrating situation—and it is therefore not difficult to see why, despite their high level of pay, they were discontented and frequently un-cooperative.

A consequence of the legalistic approach by Union and employer to the negotiations about rates of pay and conditions of work had been that the strippers and grinders had come to be regarded as a problem group who had to be dealt with directly by the General Manager, or at the least by the Inside Manager, and that the card room overlooker had been by-passed on nearly all points relating to this group of workers in his department. The position was thus an impasse. The obvious line for solution of the problem seemed to be to alter the job so that it should be less monotonous and cease to be a dead-end job, and so that the maximum length of service as a stripper should be fixed at a term—possibly 5 or 6 years—which would have the minimum chance of producing byssinosis and other respiratory disorders.

The barriers to this solutions are: (i)—that the rate of pay is already so high that it is impossible for the industry to provide alternative or senior posts, which carry equal or higher pay, for all the men who would pass through the 5 year service as a stripper, (ii)—the Union's insistence on a two year apprenticeship, which gives the job a skilled standing, and the reasonable reluctance of a man to leave a job in which he has served a long training. (It is noteworthy that all the strippers interviewed were prepared to admit that the job could be learnt to full skill level in about 6 weeks with adequate training.)

A solution along these lines has very serious practical difficulties—it would have to be applied throughout the industry—it would involve transferring men between departments within the mill, *e.g.*, from the card room to the spinning rooms—it would necessitate formal training—and it might entail a period of high earnings followed by a period of reduced earnings.

The present trend is away from all these aims. Machinery is being changed to reduce the amount of grinding, while stripping is being

mechanised. Thus the trend is towards eliminating the job of the strippers and grinders, and in the process it is being made more rather than less monotonous.

This then is the background of a morale problem which affected the card room overlooker, a problem which was regarded as so dangerous that nearly all his influence on its solution had been abrogated because the handling of the situation had been taken over by the General Manager.

THE SIZE OF GROUPS

REMOTENESS OF THE OVERLOOKER

Supervision in this cotton spinning firm was characterized by the very large size of working groups under one official leader. It was clear from the remarks made about overlookers during the interviews with women operatives that as far as most of them were concerned the overlooker was not particularly important. The commonest remark about an overlooker was that he was 'alright'—and this was said in such a way as to indicate that the operative was not emotionally involved in judgments about the overlooker. The investigator then usually asked whether the operative "had much dealing with the overlooker"—and the common reply was that she had very little.

The investigator found it difficult to explain this finding to the overlookers—when he said that as far as the operative was concerned the overlooker was a very remote person, this was denied vehemently, and all the overlookers protested their interest in their individual workers, their considerable store of knowledge about individual temperaments and their scrupulously exact memory for names.

In one department particularly, there was a very real problem about communication. This was due partly to the personality characteristics of the overlooker and partly to the nature of the operatives' task which involved very little interpersonal contact. It was clear that the overlooker had failed to give the impression that he was readily approachable and genuinely interested in operatives' difficulties, and he was in

consequence not being informed about the minor, but irritating, difficulties which might, unless dealt with, create major dissatisfactions. The situation in this department was complicated by the personalities of the two Works Councillors who were not as 'operative centred' in their interests as their role demanded. In another department, where a Trade Union representative acted as a Works Councillor, it was a common complaint that "she's for the Union, she's not for us!" In this department, too, the overlooker was regarded as unapproachable and often unsympathetic.

The psychological barriers to free communication between the overlooker and his operatives were considerable, both because each operative saw herself as just one of a very large group and hence not entitled to take up much of the overlooker's time, and because of the fear that if she did go to the overlooker she would be regarded by her colleagues as behaving in an unsanctioned manner. If the overlooker had acquired a reputation of being disinterested, or unhelpful, or even rude—then the barrier to communication would be complete and he would find out about the dissatisfactions amongst his operatives only when these had boiled up to the point of a serious and dangerous situation. It is not enough for a supervisor to know his workers, he must encourage them to get to know him. With working groups of upwards of one hundred, this is a very difficult task.

RELATIONSHIPS WITHIN THE SUPERVISORY TEAM

It was the formal managerial policy at Cauldwells to regard no-one below the level of overlooker as a supervisor. This was in many ways an excellent policy, as it ensured that personnel decisions were made only by those with ready access to the higher ranks of management. It did however fail to recognise the function of some of the jobbers within the communication system.

The investigator found it convenient to consider the group of overlooker, assistant overlooker and jobbers as a supervisory team. It was clear that this concept was foreign to some of the overlookers and held with conviction by the others.

In one department the jobbers and undercarders all complained about their relationship with the overlooker, who they considered failed to recognize the difficulties of their work, and they were in consequence disgruntled and disaffected. In other departments it was clear that these men were very conscious of working together as a team, and the junior members of the team were very much happier and secure about their status in the department, and were able in consequence to pay more attention to production matters.

Each supervisory team was small, being round about 5 or 6 in number. It thus contrasted very markedly with the large working group of operatives. While it is difficult to talk of human relations within the whole working

group, which by its very size tends to make these relationship almost non-existent, it is extremely important to recognize the relationships within the small supervisory team where the interplay of personalities is very marked.

Where the overlooker was not aware of the need to get his technical assistants thinking of themselves as a team, he was failing to provide the example of enthusiastic co-operation which he should expect from his operatives. He was moreover denying himself the assistance of these men in the communication system of his department, for they, particularly in the winding and spinning departments, were in contact with relatively small working groups who would know them better than they knew the overlooker.

The overlooker had considerable influence on the selection of men to fill the parts of his supervisory team. It seemed clear that too little attention was being paid to the social skills required for these jobs and quite undue emphasis was placed on technical knowledge. In some cases young men were promoted to assistant jobber because they had just started to go to Technical College, thus displaying at least a certain amount of initiative, even though they might fail or give up the course after a short time. There was a danger therefore of promoting men whose chief characteristic was an unrealistic assessment of their own abilities, and who by their pride in their quite elementary technical knowledge might irritate and antagonise the women operatives.

THE PROMOTION POLICY

At first sight the firm appeared to offer unusual difficulties in relation to promotion. The large span of control indicated that the number of supervisory posts available per thousand employees was considerably smaller than in other industries. Entrants to the firm might thus become discouraged about their opportunities. Reflection showed that this was a mistaken view.

All supervisory posts were held by men, and there were about four women employees to every man. Thus, despite the fact that the overlooker controlled upwards of a hundred operatives, the male workers had the same chance of promotion that they would have had in an all male industry where the span of control was about twenty.

The usual course of promotion was that boys entered the firm immediately after or within a year or so of leaving school, during which period they had been trying their hand at some other occupation. They were then employed in a labouring task, lap carrying, bobbin carrying, etc., until they were about 18. At 18, or after return from National Service, they were eligible, if they worked in the carding department, for apprenticeship as a stripper and grinder; in the spinning department they might be given a straightforward maintenance job, such as band jobbing. In the winding department there were fewer vacancies for men, and by the time a boy was 18 he was likely to have become a beam dropper or to hold some such semi-skilled post. There was some interchange of men between the weaving, doubling, winding and spinning departments, but card room workers tended to stay in the carding department.

The card room operative who became a stripper and grinder, or worked in the blowing room, might well stay in this job for ten years before there was a chance of promotion to undercarder level. In the spinning and winding departments the next move was to jobbing, when the man definitely became a member of the supervisory team.

During this period the more ambitious men would have attended Technical College and have taken a course in Cotton Spinning which might be taken up to City & Guilds Certificate or Higher National level. The firm encouraged these studies and was prepared to pay all expenses for fees, travelling and books. The usual training involved attendance at Technical College for three nights during term time, for at least two years. Although several of the overlookers held certificates, there were others who had had no formal technical education. None had had more than elementary education, other than their night school studies.

It was an extremely important finding that most of the overlookers had won scholarships to secondary schools but owing to financial stringency in their families, often during the de-

pression in the 1920's, had been unable to take up these scholarships and had started work at 13 or 14. At the time of the study all boys joining the firm were recruited from the Secondary Modern Schools, and the financial barriers to acceptance of scholarships to the Technical and Grammar Schools had practically ceased to exist. It seemed unlikely that it would be possible to recruit overlookers of the calibre of the existing ones from this field in the future.

The implication of this finding was that the recruitment policy of the firm should be altered to ensure a sufficient intake of boys from Secondary Technical Schools, so that the field for selection of overlookers in the future would contain at least as much talent as it had in the past. This change is almost certainly necessary in a large number of textile firms, as there is a tendency at present for nearly all the boys leaving the Secondary Technical Schools to enter the engineering industry, and the local Youth Employment Officer stated that only two boys from schools other than the Secondary Modern ones had, to his knowledge, entered textile firms in the area in the past two years.

A second source of candidates for the junior posts in the supervisory team was the intake of mature men from other industries, particularly mining. These older men were entering the firm as labourers, and were denied any prospect of promotion. Some at least of them had the qualities and maturity which would be extremely valuable in junior supervisory posts, and although their promotion might create some resentment amongst the youths who might feel that by entering the industry on leaving school they acquired a freehold of the promotion prospects, this resentment should be handled in such a way that it was turned to a serious intention to acquire the skills and the technical qualifications that would ensure their promotion on merit.

It was too readily assumed that the technical knowledge that a youth can acquire by merely working in a mill for a few years is a substantial qualification for certain posts in the supervisory

team, and that a man who has worked in the mines for twenty years and reached a post of junior supervisor there, before having to leave that industry because of, say, nystagmus, is hopelessly handicapped by his lack of experience in cotton spinning, even after he has worked as a labourer in the mill for two or three years.

The promotion prospects of boys entering the mill in labouring jobs were in the region of one chance in twenty of becoming an overlooker, and about one chance in four of reaching the level of jobber or equivalent rank. Some men, however, would be very considerably hampered in their prospects by entering the firm at a time when the majority of overlookers had succeeded recently to their posts and could be expected to hold these posts for fifteen years or longer. It had in the past been the case that overlookers had rarely retired before they were 65, and several had stayed at work until they were nearly 70.

It was thus most important both from the point of view of the individual candidate and in the firm's interest to ensure that all men in the firm could be considered for any overlooker vacancy, whether it had occurred in the department in which they were working or not. It was the practice to advertise all vacancies for posts of overlooker, within the firm, and occasionally such vacancies were advertised in the local press. Vacancies at the jobber level, however, were not treated systematically and although sometimes advertised within the mill, they were frequently dealt with on an *ad hoc* basis, by discussion between General Manager, Inside Manager, and overlooker, and the field for selection tended to be confined to men in either a particular department or in the two similar departments in the pair of mills controlled by one Inside Manager.

Although management was aware of the merits of a systematic promotion policy, and took considerable care about the advertisement of vacancies, the male operatives were by no means uniformly informed about this policy.

Many men believed that promotion was confined largely to units of single mills, although they were aware of departures from this practice. There was, however, no doubt that the men were enthusiastic about a promotion policy based on merit and suitability, rather than on seniority. Some of this enthusiasm was, unfortunately, associated with unrealistic aspirations amongst the younger men, who not infrequently stated that they were more suitable for promotion than their elders, but the older men were equally antagonistic to a promotion policy based on seniority, even though such a policy would ensure their having priority.

The chief defect of the selection system was that no systematic attempt was made to assess *all* the possible candidates for a vacancy, and in consequence the managers lacked conviction that, whatever the defects of a man once he had been promoted, he really had been the best candidate available. There was thus an unfortunate tendency to assess the overlookers' and jobbers' performance after they had been promoted, instead of making a thorough effort to utilize the man in such a way that his merits were emphasized and his shortcomings avoided or at least compensated by appropriate administrative reorganization.

The promotion policy and the problems of selection were complicated by the very considerable differences in the work of the junior members of the supervisory team and that of the overlooker. It was evident from the material obtained in an attempt to assess the success of the different supervisors that some of the junior supervisory posts demanded qualities quite other than those which led to success as an overlooker. Thus the jobbers in the spinning rooms were engaged on tasks which involved close co-operation with small teams of women doffers, in which interplay of personalities was considerable. Their work had a repetitious quality which would lead to boredom and erratic performance in men who had marked intellectual leanings. Most of the overlookers' jobs, however, involved a considerable

amount of fairly long range planning and problem solving which could not be successfully performed by men without an above average intellectual endowment. The intellectual interests of such men may frequently impose difficulties in dealing with operatives who are not so interested in ideas and tend to be more concerned with more immediate and personal matters.

Thus the selection policy had to take account of the fact that it might be necessary to recruit a few men into the junior supervisory posts, who were intended for eventual promotion to overlooker and ultimately to Inside Manager level, who might find the work at jobber level uncongenial and might in fact perform only in-

differently in this role. It was, however, considered that the experience of working, at least for a short time, at the jobber level was an extremely valuable training for the more senior posts.

Managerial policies were heavily influenced by the belief that the sort of initiative demonstrated by operatives who made representations to their managers that they wanted promotion was itself an important sign of suitability for advancement into a supervisory post. The investigator felt that this was probably an unjustified assumption, and the evidence from the estimates of supervisory success, which will be discussed later, tended to confirm his view.

THE OPERATIVES' IDEA OF THE 'IDEAL' SUPERVISOR

It was clear from the interview material that there was a general consensus of opinion about the qualities of the 'ideal' supervisor. (Male supervisors were preferred to women supervisors.) He was fair, he was firm, he was approachable, reliable and genuinely interested in the well-being of his operatives. He supervised from long range, he did not 'breathe down your neck'. He was interested in his job and fully competent in the technical and administrative details. He was prepared to admit it when he did not know the answer to a problem, and he was not afraid to ask operatives their views about technical matters.

Women operatives did not seem to be interested in the relationship of the overlooker to the Union, but there was evidence that they desired him to be enthusiastic about and co-operative with the Works Council. Men on the other hand seemed to think that Union relationships were more important, but there was no evidence of strong feeling on this point. No operatives raised the question of the overlooker's relationships with his managers—there was no evidence that they regarded this as a

matter which influenced their judgment of their overlooker.

A few operatives, rather more men than women, remarked on the organization of the overlooker's job as a matter which influenced their own contentment. Some of these comments were on the lines that the overlooker had too much to do, and some suggested that there "were too many bosses"—this latter type of remark was confined to two departments.

As has been said earlier, the majority of operatives regarded their overlookers as relatively remote from them, and seemed content with this situation. The women engaged on piecework on the frames in the card room, spinning, winding and beaming, thought of themselves as self supervising, and their interest in their overlooker was confined to his competence in running the department in such a way that their own tasks could be carried out with a minimum of interruption and inconvenience. There were thus some grounds for saying that efficient supervision is like efficient garbage collection, it happens and you don't notice it.

THE SUPERVISOR'S RELATIONSHIPS WITH HIS SUPERIORS— PATTERNS OF LEADERSHIP

Cauldwells were extremely fortunate in having as their General Manager a man of quite outstanding ability, great energy, very progressive views on human relations in industry, and great personal charm. It was clear that the personality of this one man had had more influence than any other single factor on the informal social organization of the firm.

Since the appointment, some ten years earlier, of the General Manager there had been a radical restructuring both of the formal administrative organization and of the pattern of informal relationships within the managerial and supervisory team. Whereas in the past control had been effected by playing off one man against another, where lateral communication between supervisors had been absolutely discouraged, where vertical communication had been domineering downwards and submissive upwards, where personal rivalries had been encouraged as an incentive to effort and where fear and suspicion had been the controlling emotions, there had developed a very real sense of team spirit, the relationships between the overlookers and the General Manager were open, candid and often outspoken from both sides, and the overlookers formed a group in which lateral communication was constant and encouraged.

This change had not been brought about without cost and the legacies of the old order had not yet entirely disappeared. Some of the cost had been the removal, though this was not the deliberate policy of the firm, of some members of the old managerial-supervisory team who had lacked the ability to accept the increased responsibility of their role in a democratic organization, or who by reason of their age or temperament had found themselves unable to adjust their customary autocratic behaviour to conform to the needs of the new policies.

It seemed to the investigator that the two Inside Managers had adjusted to the new policies in different ways. Their general con-

ceptions of their jobs differed to some degree in the extent to which they desired their overlookers to undertake autonomous control of individual departments. One preferred to retain a fairly large measure of personal control over details of departmental administration, while at the same time preferring to consult the General Manager relatively infrequently and largely in order to obtain approval of a line of action already crystallized in his own mind. The other Inside Manager desired his overlookers to accept a larger measure of responsibility for day to day decisions in order to leave him free to deal with longer range problems of administration and planning. This interpretation of the situation was not accepted by the Inside Managers, who pointed out that their jobs were largely determined by the administrative system in the firm, not mainly by personal characteristics. Moreover they pointed out that the extent to which they were able to delegate responsibility to their overlookers was largely dependent on the calibre of the individual overlookers, and again was not mainly determined by their own attitudes and conceptions of their functions as managers. They were prepared, however, to agree that their own personalities were one of the determinants of the content of the jobs of their overlookers.

It seemed that to some extent the reorganization of the machinery of administrative control had not crystallized opinion about the function of the Inside Manager. Many fields in which policy decisions could appropriately be taken at this level were still largely swayed by the views of the General Manager, who was informed in great detail about the trends and background of all problems which affected the firm as a whole. There was, for instance, no budget allowance for each mill, to cover such items as redecoration and minor structural alterations, consequently decisions about these items were in the hands of the General Manager. It is, of course, extremely convenient to have decisions about

these matters in the hands of a single man, as he can then decide priorities, and give a programme of work to the ancillary departments such as the joiners, but it means that the organization of delegation of policy decisions is split between a functional and a hierarchical method. Some decisions which are appropriate to one level in the structure are delegated upwards to a higher level simply because of functional convenience.

In this case, this had two unfortunate consequences. The first was that there was a danger that the General Manager's office might become a bottle-neck and that minor decisions were unduly postponed because of pressure of more important work. The second was that the organization did not train the Inside Managers in the functions of the higher management and thus might produce difficulties when one of the Inside Managers was promoted.

The General Manager was acutely aware of both these problems. The first was largely obviated by his personal ability, whereby he was able to carry a work load much heavier than he could expect of his subordinates. The training problem was tackled by keeping the Inside Managers informed of the course of decisions and by asking for their views whenever this was possible. This did not, however, completely meet the case, as being informed about decisions is not a full training for making them.

The subject of the recruitment, training and function of the middle management staff is one which merits detailed consideration. Inside Managers were recruited from overlookers; they were thus trained in supervision and had a detailed knowledge of the technical processes in at least one department of the mill, and an extensive though less detailed knowledge of the work of the other departments. They were not, however, trained in the functions of management at the time of their promotion, unless, as might occasionally happen, they had undertaken a course such as that for the certificate of the Institute of Industrial Administration, or had continued their studies in Textile Technology

for City & Guilds or Higher National Certificate up to the fourth or fifth year in which Mill Management subjects are taught. Thus the majority of candidates for promotion to Inside Manager were equipped only with such knowledge of the manager's function as they had gained by being managed, or by the relatively informal instruction which a few of their more enlightened superiors had provided for them.

The training of the new Inside Manager on the job was almost bound to be carried out under stress, either because he was to relieve someone due to retire shortly and who might not be very interested in training his own successor, or because the vacancy had arisen at short notice and the man being relieved was himself occupied in preparing to undertake his own new duties.

One method of training which had been introduced in the past had been the creation from time to time of posts of Assistant Manager, but this method had the disadvantage that the function of the Assistant Manager was even less clearly defined than that of the Inside Manager and the value of the training in consequence depended very largely on the personality and efficiency of the man to whom the trainee was appointed as assistant.

This discussion of the training and the function of the Inside Managers has been included here in order to indicate some of the problems affecting the overlookers in their relationships with their managers. The relatively unformalized role of the Inside Manager meant that his relationships with his overlookers were dependent to a considerable degree on his idea of his own function within the administrative system. Thus, while it is nearly always the case in managerial jobs that the man determines the content of the job, it was to a considerable degree the case in this firm that the man determined the content of the jobs of his subordinate supervisors.

As far as most operatives were concerned it was the function of the overlooker to facilitate their own work, and to this end their demands

were that he should be a competent administrator and an available repository of technological information. The Inside Manager might, however, require a variety of qualities in his overlookers, ranging from almost completely autonomous control of their own departments, in which case his own function was largely the co-ordination of the work of the departments, to obedience to highly detailed control by himself, in which case all decisions, even on minor details, had to be referred to him.

WOMEN SUPERVISORS AND THE SUPERVISION OF WOMEN

One of the aims of the investigation was to isolate the special problems which appear when the majority of the operatives being supervised are women. It was not possible to separate, except on common sense grounds, problems relating specifically to the supervision of women from problems which had arisen because of the nature of the processes in cotton spinning and problems which had their source in the industrial and social history of this part of the country.

It does, however, seem to be the case that the supervisor of large numbers of women has some special problems arising from the unwillingness of these operatives to combine naturally into groups which provide a basis for hierarchical organization. There are many operatives who take a pride in 'keeping themselves to themselves'—in many ways an admirable attitude—but one nevertheless which makes communication difficult. This problem has already been touched on in relation to the poor quality of inter-operative relationships, and will be discussed in further detail under the heading 'Communication and the Works Council'.

This lack of group feeling amongst women operatives was reflected also in the complaints about the 'unfairness' of allocation of work. These complaints were always directed at symptoms—particular cases of suspected unfairness—never at the system of allocation. This tendency to be preoccupied with detail, and detail which was always seen from an individual

Thus the Inside Manager's views on the role of the overlooker were crucial to the statement of the qualities to be demanded from candidates for promotion to overlooker. It was evident to the investigator that the decisive test of a supervisory selection programme in this firm would be the success with which it found men able to fit into the pattern of leadership determined by the beliefs and attitudes of their immediate superiors.

point of view, was further complicated by the unwillingness of individuals to bring these points to the attention of the supervisor, simply because they were *individual* problems and, therefore, assumed to be trivial in the view of the supervisor. This tendency to suppress minor complaints led to the usual phenomena of repression—details accumulated, expression was denied and eventually there was an outburst of aggression, quite inappropriate to the detail which had provoked the outburst.

During the 1939-45 War it had been necessary to recruit a number of women operatives to undertake the work normally performed by men, as jobbers in the spinning and winding departments. This innovation was not, on the whole, a success, and only one or two of these posts were still held by women. It appeared that there were a number of reasons why this venture had to be abandoned, not the least important being that the women selected for this work were not formally trained in the human relations skills of supervision. There was a strong feeling amongst women operatives in this firm that it was more pleasant to work for men supervisors, and those women interviewed who had been members of the supervisory team during the War, were fairly unanimous that they preferred to work as operatives. This may be no more than a reflection of their difficulties in undertaking a task for which there had been no formal training, or that the administrative organization at the time had not been

structured in such a way as to give them the support they needed to fulfil their role.

Interviews with operatives, however, tended to indicate that the main reason for dissatisfaction under female supervision was the feeling that the women supervisors found it difficult to be detached and objective in their treatment of operatives. This seems to be evidence of a feminine inclination to view problems from a personal angle and to feel personal emotions even about human relationships which derive entirely from the working situation.

This makes it extremely difficult for women supervisors to be uniformly friendly but detached in their treatment of operatives, and it also seems to be the case that any evidence of even slight favouritism for particular operatives is resented far more when the supervisor is a woman rather than a man. It is, of course, true that much of the dissatisfaction expressed about being supervised by women may be due largely to a prejudice against a change from the tradi-

tional methods, but it seems unlikely that this was the sole source of discontent. The problems of age differentials and marital status seem to be acute when women are being supervised by women. Women appear to be prepared to work for a man whether he is younger or older than they are, whether he is married, single, widowed or divorced, but if they have a woman supervisor, her age and her marital status are sources of at any rate interested gossip if not critical comment. This all seems to underline the need for the supervisor to be marked off from his operatives by some readily recognizable socially accepted barrier, which can be crossed whenever the industrial situation calls for communication on matters related to work, but which prevents him being seen as 'just one of us'. The most obvious social distinction as far as women operatives are concerned seems to be the culturally accepted difference of sex roles in industrial society.

COMMUNICATION AND THE WORKS COUNCIL

Cauldwells had had a system of joint consultation in operation since 1943. This development was pioneered by the General Manager, who had had to overcome considerable resistance both from his colleagues and from operatives themselves in introducing this scheme. This resistance had been largely converted into enthusiastic acceptance of the aims of joint consultation, but it was clear to the investigator that the system was still in a developmental stage and was being used to an excessive extent as a grievance procedure rather than as a method of obtaining positive operative co-operation in the development of progressive policies. In this respect the progress of consultation at Cauldwells appeared to be following the pattern which has been found to be common in British industry as a whole.

Operative comment about joint consultation, during the interviews, was on the whole extremely favourable. Although a fair proportion of women operatives seemed largely disinterested, the majority, even if personally unin-

involved, approved strongly of the existence of joint consultation in the firm. The most striking comments came from operatives who had worked in other firms in which there was no method of joint consultation. "You get a fair crack of the whip here" was one such comment. "This is a much better firm than X's, they show they are interested in what you think here" was another.

Not the least valuable consequence of joint consultation had been its contribution in developing loyalty to the firm. Moreover, there was some evidence that its existence had influenced public relations in the locality to the extent that the firm had a higher standing in the community than some of its competitors in the labour market, and was able to recruit workers with less difficulty than would otherwise have been the case.

The most intractable problem of joint consultation related to the communication of the attitudes it built up amongst the Works Coun-

councillors to the ordinary operatives whom the councillors represented. It appeared to be extraordinarily difficult to get the idea of democratic representation across to the ordinary operatives. The Works Councillors, who were on the whole the most enthusiastic supporters of joint consultation, complained that their role provided "a thankless task". They went to considerable efforts to find out opinion amongst their constituents, and equal effort to collect information about any grievances that were being suppressed, in order to bring these matters up at Council meetings, but when they reported back they were met by remarks such as "What, all that time to say just that! I wouldn't waste my time like that!"—and this was, of course, a most discouraging reaction.

One of the causes of this difficulty was the large size of most of the councillors' constituencies. It was usual to have two councillors to each department; there was one councillor in each spinning room, one in each carding room and two councillors to the three or four rooms of the winding department. The average size of the councillor's constituency was thus in the region of sixty operatives. This problem of size was to some extent relieved by the system of inviting visitors to meetings. Each councillor was encouraged to take two of her constituents to meetings as visitors, but it was frequently difficult to get operatives to attend in this role, partly because those who wished to go did not let their councillor know, and partly because the ones who were invited were by no means clear about what they were expected to do at the meeting. It was the intention that visitors should be allowed to speak at meetings, but some operatives were unaware of this and believed that they were permitted to attend only as spectators.

It was in fact commonly the case that operatives had only vague ideas about the purposes and function of the Works Council, and the general consensus of opinion was that it existed as a means of dealing with grievances, other than those relating to wages, which were

dealt with solely by the Union, and that it provided a means of by-passing the normal administrative line through the overlooker when this was necessary. Several operatives said quite openly that they preferred to use 'the line' rather than the Works Council to obtain information and get action on minor grievances, because this was quicker and more effective. This attitude was most widespread amongst the men, who frequently tended to regard the Works Council as primarily a women's organization.

An unfortunate aspect of the vagueness of operatives' ideas about the function of the Works Council was the development of unduly restricted ideas of what might or might not be discussed at meetings. Complaints about physical working conditions had become accepted as the most suitable items for the agenda. This had focused attention on detailed consideration of the lighting, ventilation and condition of flooring in the various departments—items which recurred with tedious frequency at Council meetings. While it was both important and valuable that the Council should provide a method of communication of operative opinion on these matters, it was unfortunate that the discussion should be so repetitious and that the Council had not reached a stage of inquiring into the administrative organization which apparently failed to satisfy the operatives' requirements that these be put right as a routine matter.

This criticism of the effectiveness of joint consultation is by no means solely applicable to Cauldwells—it is clear that the discussion of detailed items rather than organizational principles is the rule rather than the exception in consultation in British industry. Nor is it surprising that this state exists where consultation has been operating for only eight years—indeed, it is probable that consultation in this firm has progressed faster and further than in the vast majority of firms, not least because of the enthusiasm and patience of the General Manager.

At the suggestion of one of the managers, a change had recently been made in the organization of the Works Council. Instead of the former monthly meetings of all councillors, managers and overlookers, these meetings took place quarterly, and also when special circumstances necessitated a full meeting. There were additional monthly 'Mill Meetings' at which the General Manager, the Inside Manager, overlookers, councillors and one or two 'visitors' from each department of a single mill met to discuss the problems of that mill. Although this necessitated the General Manager's attendance at four meetings in the course of the month instead of only one, the quality of discussion in these meetings was more lively and there was more uniform participation as the problems were much 'nearer home' for the councillors concerned. This seemed to be a valuable and acceptable change which would probably assist in spreading information about and enthusiasm for the Works Council amongst operatives.

The normal method of reporting back from the Works Council was by the distribution of a printed broadsheet or 'newsletter' to all operatives. This publication was written by the General Manager and consisted of a brief description of the items raised at meetings and the decisions arrived at. It was written in a lively style and the names of the councillors or other members raising matters were always given. There was no doubt that these newsletters were greatly appreciated, and avidly read by nearly all operatives, but in a brief document it was impossible to convey more than an outline of the material discussed and it was necessary to omit all details of the way in which it was discussed. Thus, for those operatives who had never attended a Council meeting, there was no means of knowing the atmosphere of good humour and keen participation which characterized these meetings. The most serious drawback to reliance on a 'newsletter' for reporting back from the Council, however, is

that by its very nature it is a one-way method of communication.

This discussion of the Works Council has been introduced to indicate the possibilities of joint consultation as a tool to assist the over-looker in his communication function. It was clear that this system suffered from many of the difficulties that characterized the foreman's role itself. The size of constituencies was large, and there was an absence of formal systematization of communication within these groups, much in the same way that the over-looker's span of control was large and there was relatively little formal delegation of communication function to his supervisory team.

The over-looker's role within the system of joint consultation had not crystallized in the firm. Some overlookers were most enthusiastic and were even more progressive in their views than the councillors in their department. Others, however, saw their Works Councillors as a threat to their own prestige in their departments and their co-operation was limited to minor details which they felt appropriate to discussion at operative level, while all matters of policy should be left for discussion at overlookers' meetings or for informal discussions between the over-looker and the manager. They appeared to be unaware that this attitude is exactly the one which breaks industrial society into a two party 'we—they' system, where co-operation is minimal and negotiation and bargaining are the only means of introducing new ideas. This unprogressive attitude was, of course, largely a reflection of feelings of insecurity about their own status.

The joint consultation procedure was naturally very markedly influenced by the personalities and attitudes of the individual councillors. The system of election was by ballot, but there was considerable difficulty in getting operatives to stand for election. The councillors therefore tended to be atypical personalities in the mill, people who felt sufficiently strongly about the social problems of industrial society to give up some of their time and to expose themselves to

the strains of the councillor's function. Thus they tended to be above average in intelligence, although several were characterized by strong emotional attitudes which might be a barrier to easy, rational discussion. Many of the women councillors were obviously ill at ease in situations which demanded public speaking techniques and were inclined either to remain unduly silent or to monopolise the discussion because of the nervous tension they felt once they had started to speak. One young councillor admitted during interview that she was often severely depressed after meetings because she found she always 'blurted things out' and that she felt she was giving the impression of being

unreasonably critical.

One of the serious failings of the organization of joint consultation in this firm was that it focused attention on discontents and tended to give the management the impression that their workers were seething with grievances. Silence tended to be interpreted as fear of victimization due to lack of confidence in management's good faith. The investigator's technique of interviewing a random sample of one sixth of all operatives in two of the mills showed that, in fact, about seventeen out of every twenty workers were fully contented with their jobs and had high praise for the firm and great faith in management's sincerity.

THE FUNCTIONS OF THE 'WELFARE' DEPARTMENT

In common with many firms of its kind, Cauldwells had a Welfare Department which provided medical facilities, dealt with social activities, controlled the canteen, and handled the preparation of statistics on labour turnover, absenteeism, and accidents at work required by the Ministry of Labour and similar bodies.

This department was excellently, almost lavishly, equipped, and staffed by highly-trained personnel. The Welfare Officer had been with the firm for many years and operatives, during interviews with the investigator, paid many spontaneous tributes to her sympathy, accessibility and understanding. The department still, however, retained the characteristics of having been 'grafted on' to the organization rather than having become fully integrated into the administrative system. This is, of course, not an uncommon difficulty about Welfare and Personnel departments in British industry.

In its early days, operative 'welfare' was regarded as an ancillary service, much in the same way as the joiners or electricians formed ancillary departments. This was simply because of the content of the work of the department—provision of medical facilities, and what may be described as almoner services. When, however, personnel policies developed to the point at which all recruitment and engagement of

operatives was centralized and allocated to the 'Welfare' department, the work of the department had a much more direct impact on the functions of the supervisors and managers. As statistical studies of absenteeism and labour turnover were added to the department's work, it became clear that its functions could no longer be fairly described as 'Welfare' and that it was rapidly becoming a functional department within the main administrative structure, and a functional department, which if it was to carry out its work expeditiously, must have some executive authority.

Thus an area of overlap between the functions of the executive, the General Manager and Inside Managers, and the functions of this 'advisory' and 'ancillary' department tended to appear. Mainly by reason of the social skills shown by the personalities involved, this area of overlap had not become an area of conflict. A measure of unease, however, still existed because of the difficulties of deciding what decisions were appropriate to the Welfare Department, rather than to the production executives. A point was being approached at which the Welfare Department would have to separate out its functions, allocating individual welfare and medical services, and personnel policies, recruitment, promotion, retirement, personnel records,

etc., into two spheres—the first with full powers of action on its own initiative, and the second

as an advisory service fully integrated into the organization of the production executive.

PART II

INTRODUCTION

This part of the report sets out to examine methods of assessing success as an overlooker and to indicate the characteristic differences between the best overlookers and the remainder.

There is no single agreed method for measuring supervisory efficiency. There are several indices which may be used to measure the success of supervisors—but the choice of index will naturally depend on the type of industry, the extent of the records kept and on the philosophy of management of the firm concerned.

Possible measures include:

- (1) Productivity of the supervisor's department.
- (2) Costs of production in the supervisor's department.
- (3) Labour turnover rates in the supervisor's department.

- (4) Absence rates.
- (5) Absenteeism rates.
- (6) Operative opinion of the supervisor.
- (7) Absence of industrial disputes.
- (8) Rating by the supervisor's immediate manager.

In this study it was, unfortunately, not possible to obtain productivity or cost measures which would permit comparison of one supervisor's department with another. The objective criteria 3, 4 and 5 were however available and were used in this study, and the subjective criteria 6, and 8 were also used. There were no industrial disputes in any of the departments studied so this measure was inapplicable.

OBJECTIVE CRITERIA OF SUPERVISORY SUCCESS

(i) LABOUR TURNOVER RATES

A detailed examination of the records of labour turnover for all departments was made for the five years 1947–1951. During this period the industry was not affected by the Control of Engagements Order or any other regulation affecting its freedom to engage personnel. The period was one of full employment and there were no serious difficulties over markets for the firm's product—it was, in fact, working in a seller's market.

All operatives were engaged centrally by the Welfare Department and allocation of new employees to each of the mills can be assumed to be random. That is, there is no reason to sup-

pose that some overlookers were being supplied with operatives who were potentially better than those supplied to the other overlookers.

Two analyses were made of the labour turnover figures—(i) by reasons for leaving (Table 1) and (ii) by length of service of leavers (Table 2). The analysis sheets for the year 1950 are shown as an example.

It is clear that there were large differences between departments in their labour turnover rates for that year. However, when the 5 years 1947–1951 were considered it was clear that, in general, these differences between departments were not maintained.

This can most readily be seen if the figures are graphed: (Diagram 1: page 43)

Table 1

LABOUR TURNOVER, 1ST JANUARY, 1950—31ST DECEMBER, 1950

REASONS FOR LEAVING

Department	Preg- nant	Ill- health	Do- mestic	Forces	Retired	Total Un- avoid- able L.T.O.	%	Not Classi- fied	Other Work	Redun- dant	Dis- missed	Dis- missed	Dis- missed	Total Avoid- able Absen- teeism	%	Total Em- ployed	Total Left	Overall L.T.O. %
No. 1 Mill																		
Card Room	..	5	6	5	2	18	16	—	8	—	—	—	—	2	10	114	28	25
A. Ring Room	..	3	4	7	—	15	17	2	8	—	2	1	1	1	14	87	29	33
B. Ring Room	..	3	1	4	2	10	15	1	3	—	—	—	8	12	18	68	22	32
Winding Room	..	6	3	4	—	13	9	—	6	2	6	2	4	20	14	145	33	23
Total	..	17	14	20	4	56	14	3	25	2	8	3	15	56	14	414	112	27
No. 2 Mill																		
Card Room	..	5	11	4	—	22	19	—	12	—	13	3	18	46	39	117	68	58
A. Ring Room	..	2	3	5	—	10	16	3	5	—	3	—	6	17	27	64	27	42
B. Ring Room	..	8	13	4	—	26	26	—	8	—	1	1	11	21	21	101	47	47
Winding Room	..	6	16	5	—	29	15	1	10	6	3	2	3	25	13	200	54	27
Total	..	21	43	18	—	87	18	4	35	6	20	6	38	109	23	482	196	41
No. 3 Mill																		
Card Room	..	8	14	13	3	39	29	2	3	—	7	2	14	28	21	136	67	49
A. Ring Room	..	3	8	8	—	19	20	4	9	—	—	1	17	31	32	97	50	52
B. Ring Room	..	4	9	7	—	20	20	3	7	—	2	1	14	27	28	98	47	48
Winding Room	..	5	16	6	2	31	17	2	10	3	2	4	4	25	14	184	56	30
Total	..	20	47	34	5	109	21	11	29	3	11	8	49	111	21	515	220	42
No. 4. Mill																		
Cardroom	..	2	5	3	3	13	16	3	3	—	3	2	4	15	18	82	28	34
Ring Room	..	2	13	3	—	18	19	1	2	—	2	1	12	18	19	96	36	37
Doubling Shed		9	12	8	—	31	11	1	5	—	2	3	1	12	4	273	43	16
Totals	..	71	134	86	12	314	17	23	99	11	46	23	119	321	17	1,862	635	34
Totals % of Overall L.T.O.	..	11	21	14	2	49	—	4	16	2	7	4	19	51	—	—	100	—

Table 2

LABOUR TURNOVER, 1ST JANUARY, 1950—31ST DECEMBER, 1950

LENGTH OF SERVICE OF LEAVERS

Department	No Employed	% Un- avoidable L.T.O.	% Avoid- able L.T.O.	Total L.T.O. %	Leavers with less than 1 weeks service %	Leavers with less than 1 months service %	Leavers with less than 3 months service %	Leavers with less than 6 months service %	Leavers with less than 9 months service %	Leavers with less than 1 years service %	Leavers with more than 1 years service %
Cardrooms:											
No. 1 ..	114	16	9	25	2	3	3	5	10	10	15
No. 2 ..	117	19	39	58	9	16	25	28	31	34	24
No. 3 ..	136	29	21	49	7	12	19	24	26	32	17
No. 4 ..	82	16	18	34	4	9	16	18	22	26	8
Spinning Rooms:											
No. 1A ..	87	17	16	33							
No. 1B ..	68	15	18	32							
No. 1 (A+B) ..	155	16	17	33	2	4	8	13	15	18	15
No. 2A ..	64	16	27	42							
No. 2B ..	101	26	21	47							
No. 2 (A+B) ..	165	22	22	45	5	9	15	22	29	33	12
No. 3A ..	97	20	32	52	9	12	24	31	33	36	16
No. 3B ..	98	20	28	48	5	10	17	25	32	33	15
No. 4 ..	96	19	19	37	3	14	14	17	20	23	14
Winding Rooms											
No. 1 ..	145	9	14	23	1	3	3	7	7	8	15
No. 2 ..	200	15	13	27	1	1	3	6	6	8	19
No. 3 ..	184	17	14	30	2	4	7	7	10	13	17
Doubling Shed	273	11	4	16	—	1	1	4	5	6	10
Total for all produc- tion Depts. ..	1,862	17	17	34	3	6	11	15	18	20	14

A similar picture emerges if the figures for 'avoidable' labour turnover only are considered. (Diagram 2.) ('Avoidable' turnover is taken as percentage of labour force in a department leaving in the course of a year and giving reasons for leaving other than pregnancy, ill-health, domestic reasons, call up to Forces, or retirement. The few cases of decease of workers have been eliminated from all calculations.)

It will be seen that, with the possible exception of No. 1 Card Room, no department was *consistently* better or worse than other departments engaged in similar work. The Winding and Doubling Departments, however, were consistently better, *i.e.*, have a lower turnover

rate, than the Spinning Rooms.

To illustrate what the graphs would look like if there had been consistent differences between departments, the numbers employed in each department have been graphed in the same way. (Diagram 3.)

It will be clear, for instance, that No. 2A Spinning Room has been consistently the smallest department and the Doubling Department consistently the largest over the five year period. Thus despite the large variations between the labour turnover rates of different departments in any one year, it seemed that neither total turnover rates nor 'avoidable' turnover rates could safely be used as an index of supervisory efficiency in this firm.

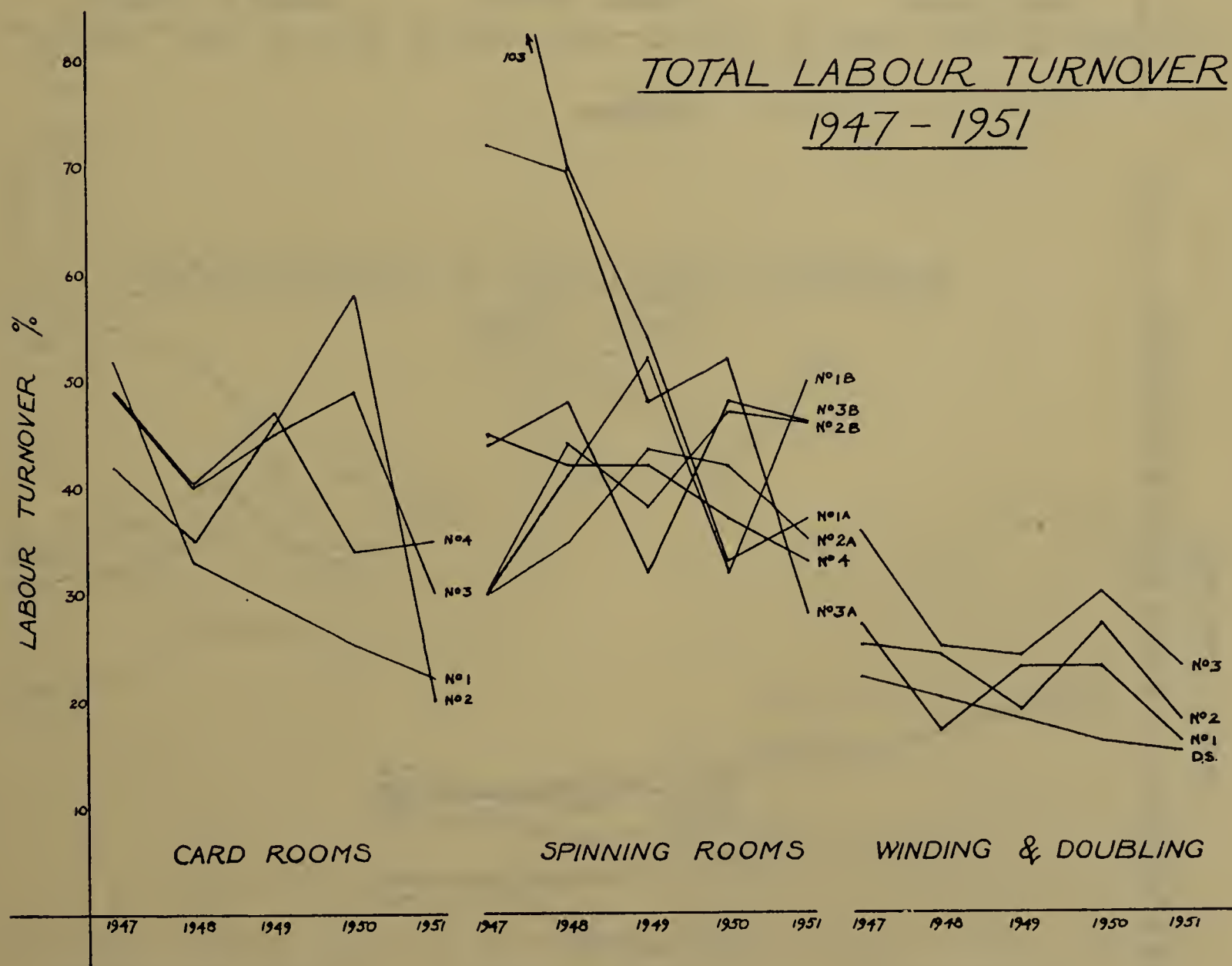


Diagram 1

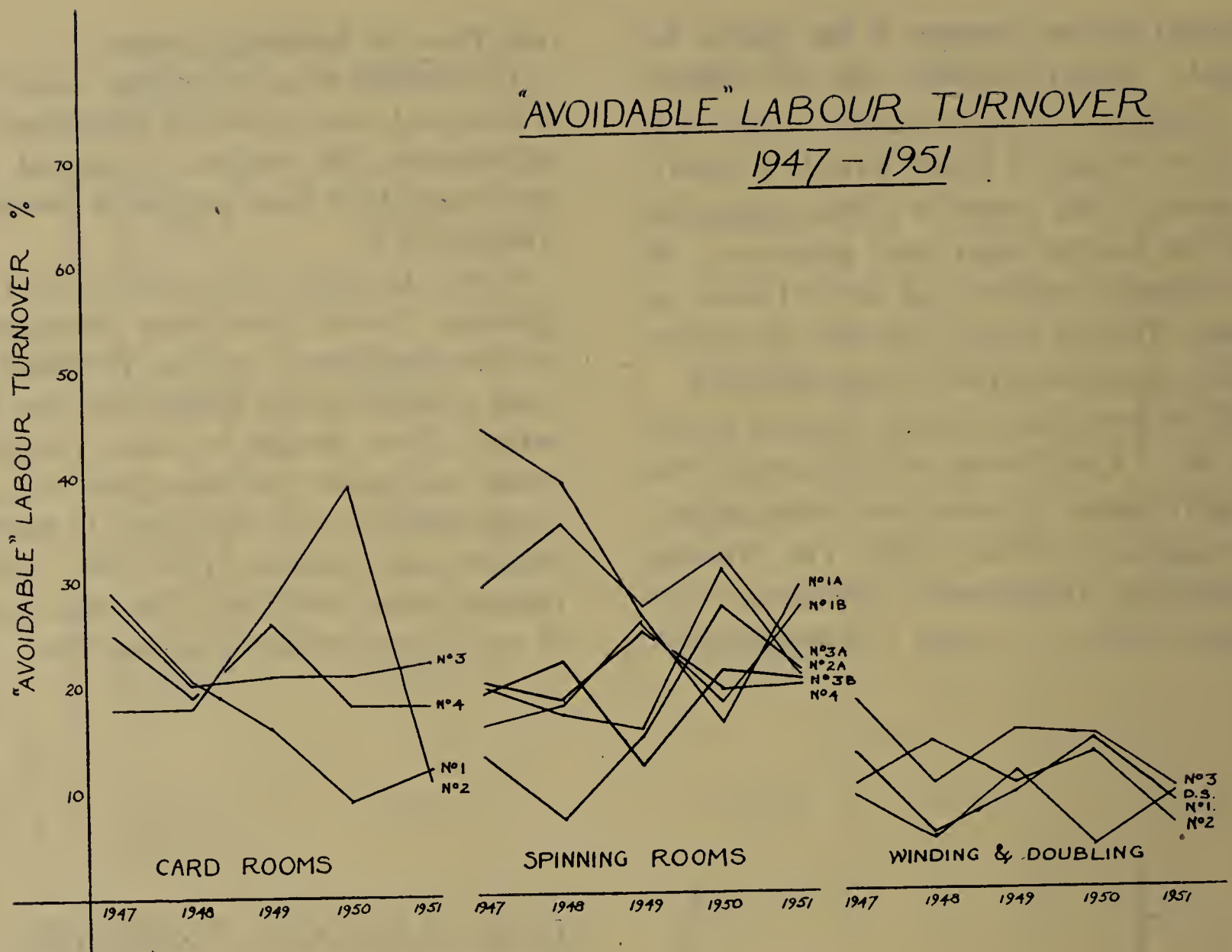


Diagram 2

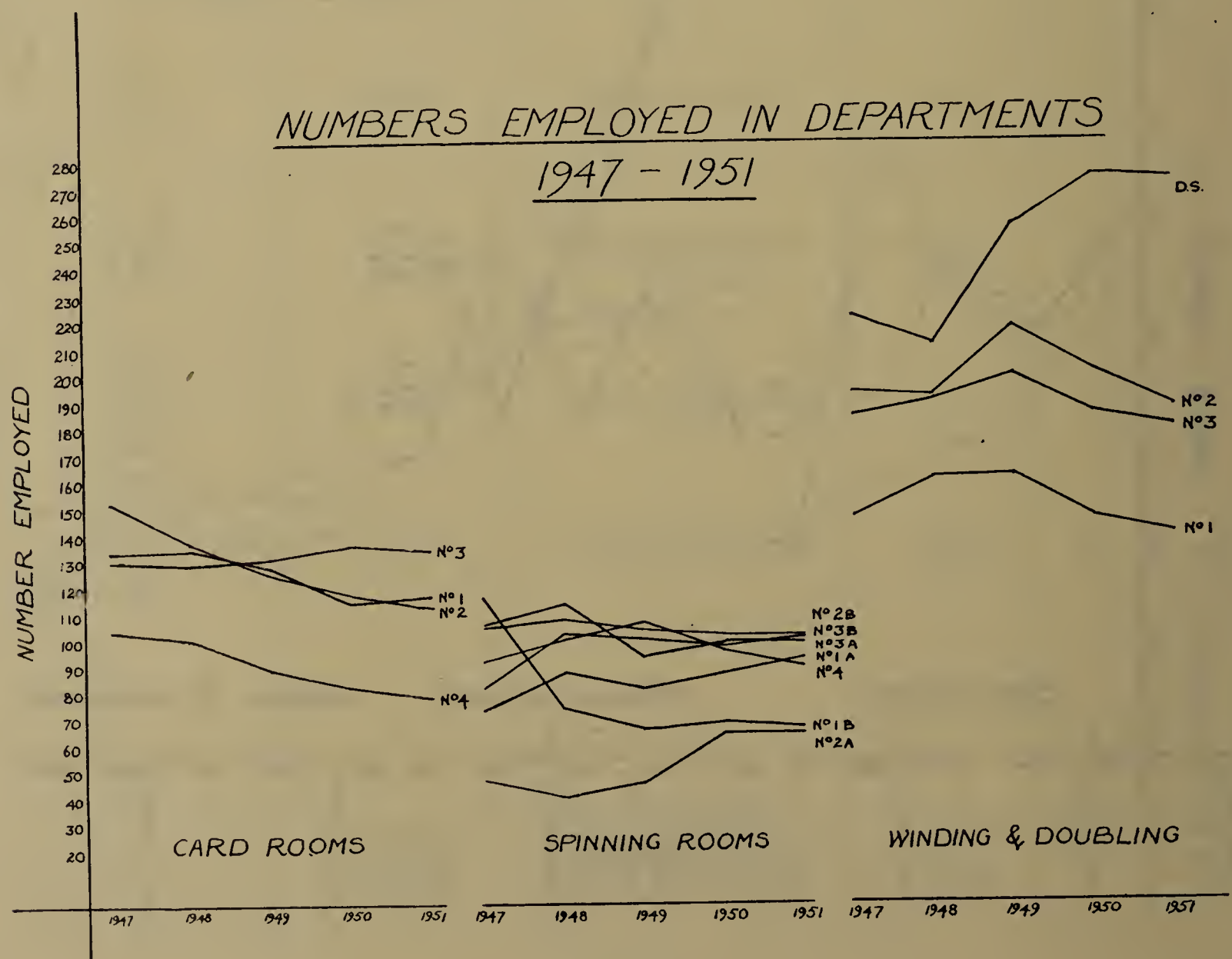


Diagram 3

(ii) ABSENCE RATES

It is reasonable to suppose that, provided the ages and general health of workers in different departments are not significantly different, the most efficient departments will have absence rates which are lower than those of the less efficient departments. Previous studies have indicated that supervisors can have an effect on the absence rates of their departments. Where the supervisor is liked and respected his workers will tend to be absent from work less frequently and will return to work sooner after illness or other genuine reasons for absence than workers who dislike or do not have feelings of loyalty to their supervisor.

The average daily absence rates for the firm are shown in Diagram 4.

It will be seen that there was a good deal of variation from year to year in any one depart-

ment, but the analysis of variance technique indicates that the differences between departments were significantly larger than the differences within any one department over the five year period. It is still the case, however, that the greatest differences were associated with types of departments rather than differences between departments of the same type — *i.e.*, carding, spinning, winding, etc.

There was a marked tendency for the level of absence in any one department to be consistently better or worse than average over the whole five year period. This would indicate that absence rates would provide a fairly reliable criterion provided (a) that the department was large, (b) that at least one year's figures and preferably several years' figures could be used as the measure.

It remains, however, to be proved that the differences between departments were related

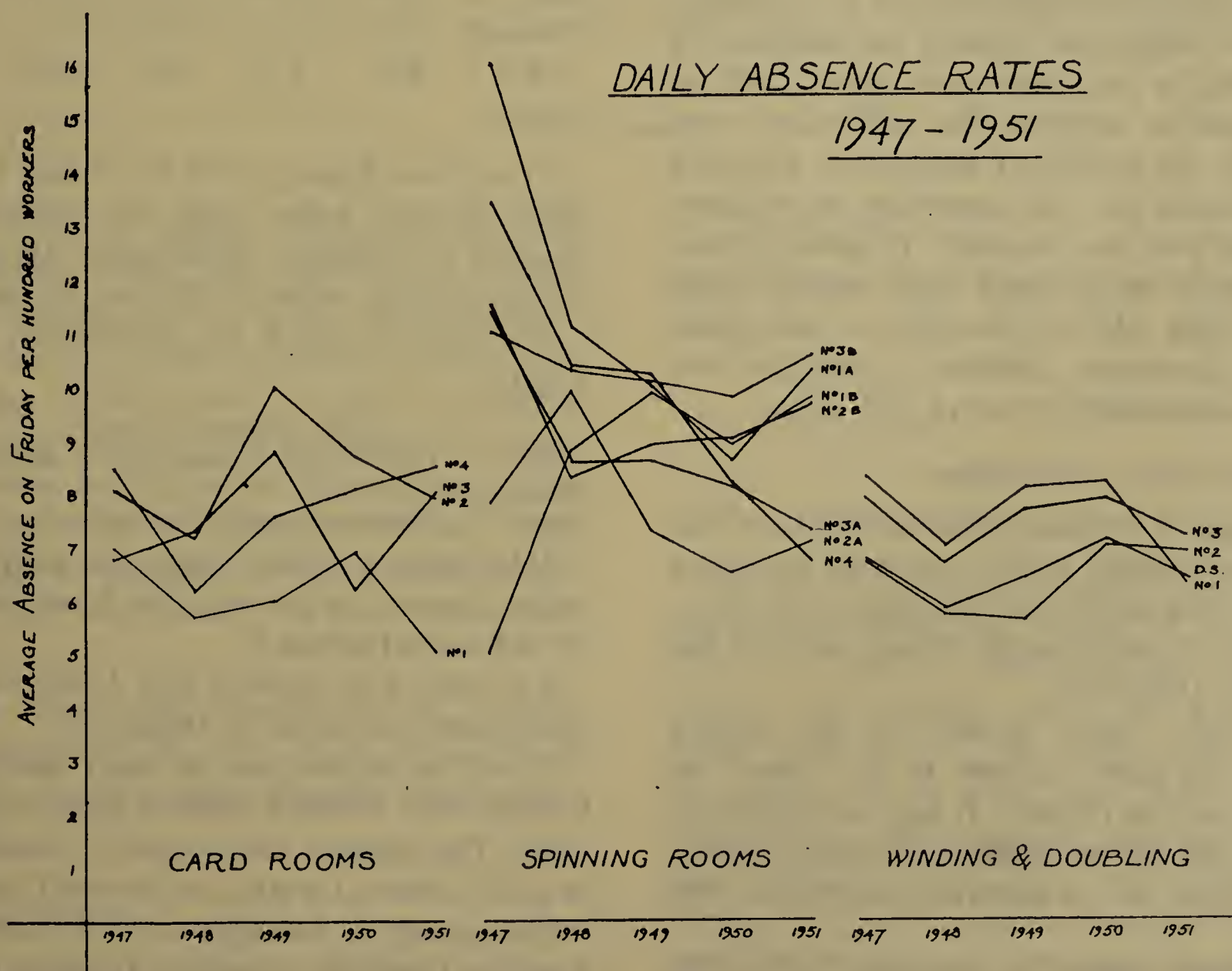


Diagram 4

to the competence of the supervisor. The figures obtained in this study do not support this conclusion at all strongly. In the case of the spinning rooms two overlookers both controlled two rooms, those were No. 1A and No. 1B spinning rooms, and No. 2A and No. 2B spinning rooms. Over the five year period the average daily absence rates per hundred workers in each of the spinning rooms were:

No. 1A	No. 1B	No. 2A	No. 2B	No. 3A	No. 3B	No. 4
11.2	8.5	7.7	9.5	8.8	10.3	10.0

The underlined figures indicate the pairs of rooms controlled by a single overlooker. It will be seen that the differences between departments controlled by the same overlooker were at least as great as the differences between departments controlled by different overlookers. This strongly suggests that, in the case of the spinning rooms at least, the differences in the average daily rate of absence were not primarily related to differences between the standards of overlooking in the departments, but it is still an open question whether the differences were related to the quality of supervision exercised by the jobbers (*i.e.*, the supervisors most closely in contact with the spinners). In general, however, it must be accepted that average daily absence rates did not provide an acceptable index of supervisory efficiency in this firm, except in outstandingly good or bad cases.

(iii) VOLUNTARY ABSENTEEISM

An index of voluntary absenteeism, known as the 'Blue Monday Index', has been developed by Hilde Behrend*, and this index was calculated for all departments during each of the five years 1947–1951.

This index takes account of the general tendency for more workers to be absent on Monday than on Friday. It may reasonably be assumed that the incidence of ill health, domestic difficulties, etc., is uniformly distributed over

all days of the week and that there is no reason for Monday's involuntary absence rate to be different from Friday's, provided large enough numbers of workers are considered over a reasonably long period. The difference between Monday's and Friday's figures can therefore be regarded as a measure of the voluntary absence level on Monday.

The absence figures for the firm showed a marked difference between Monday and Friday and the trend was maintained each year:

Trend of Daily Absence

Average number of absentees per 100 workers for all full working weeks in the year.

	Mon.	Tues.	Wed.	Thurs.	Fri.
1947 ...	9.1	8.6	8.5	8.6	8.5
1948 ...	8.5	7.7	7.5	7.6	7.6
1949 ...	9.1	8.3	8.1	8.2	8.1
1950 ...	8.7	8.2	7.9	8.0	7.9
1951 ...	8.6	8.0	7.7	7.7	7.7
Average for 5 years	8.8	8.2	7.9	8.0	8.0

From these figures it will be evident that the Blue Monday Index could be applied as a measure of voluntary absenteeism throughout the firm for the whole of the five year period.

The formula used for calculation of this Index is:

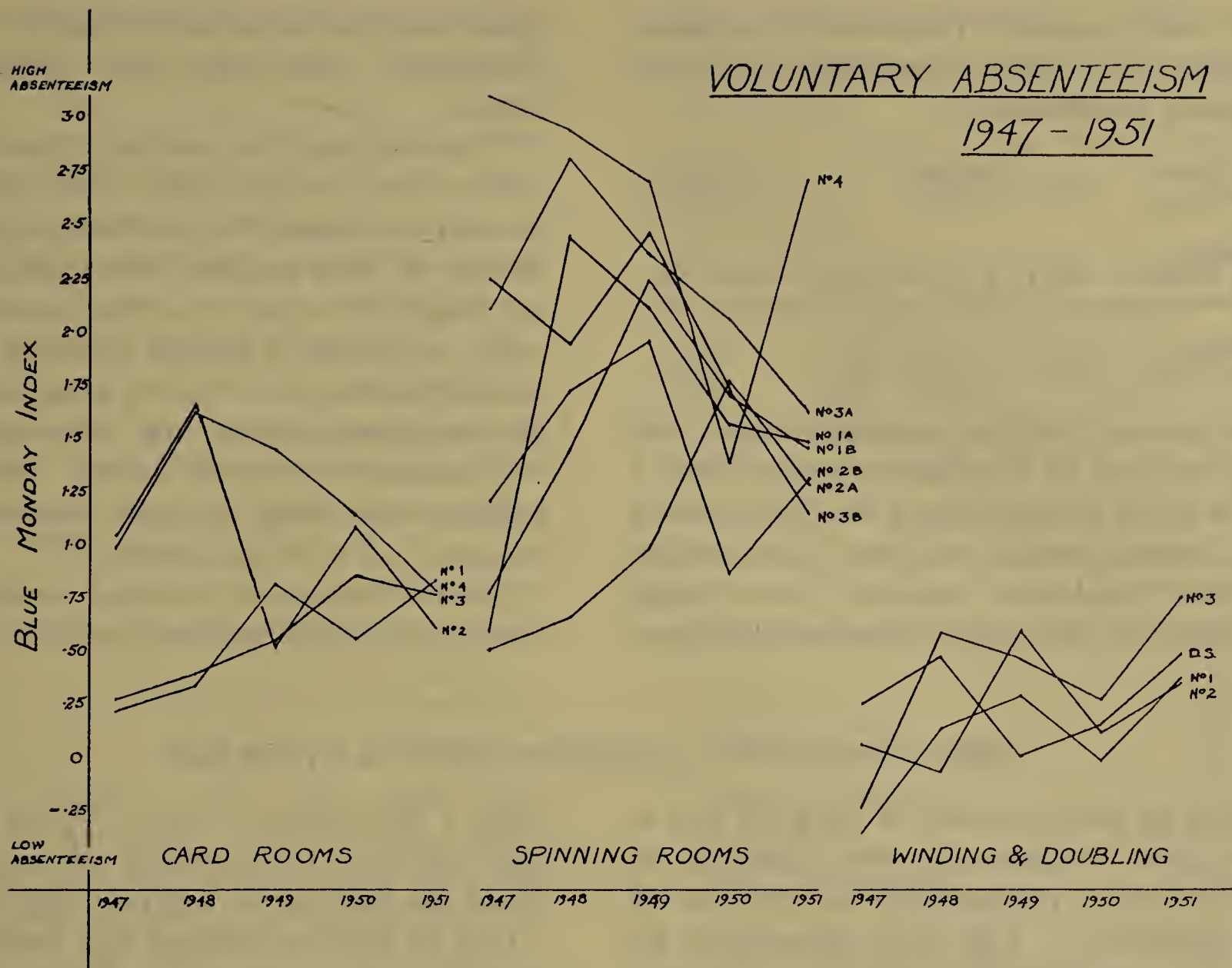
$$\text{Blue Monday Index} = \frac{\text{Total Monday absence} - \text{Total Friday absence, for } N \text{ weeks}}{\text{Total employed in department} \times N} \times 100$$

(This gives a positive figure for high absenteeism, instead of the negative figure obtained by Behrend's formula.)

The results of plotting this Index for each department are shown in Diagram 5.

It will be evident that the most marked differences were between different types of department. The variance due to types of departments in fact accounts for 61% of the total variance. Within groups of departments of the same type, however, there was a tendency for some departments to be consistently better than others. The

*See "Absence Under Full Employment" by Hilde Behrend, Research Board, Faculty of Commerce and Social Science, The University, Birmingham. 1951.



variance due to consistent differences between departments of the same type represents 9.5% of the total variance, and the hypothesis that there was no constant difference between departments of the same type must be rejected. It therefore appeared that comparisons between overlookers in charge of departments of the same type could be made on the basis of the voluntary absenteeism in their departments, with some confidence that this index was reliable.

The average Blue Monday Indices for each department over the five year period are as follows. (A large figure indicates high absenteeism.)

Card Rooms

No. 1	No. 2	No. 3	No. 4
0.55	0.98	0.56	1.20

Spinning Rooms

No.1A	No.1B	No.2A	No.2B	No. 3A	No.3B	No.4
1.63	1.52	1.03	1.40	2.19	1.90	2.57

Winding Rooms

No. 1	No. 2	No. 3
0.08	0.21	0.36

The pairs of figures underlined indicate two departments under the control of one over-looker. It will be seen that the differences between departments under the same over-looker are less than the differences between departments of the same type under different overlookers. This supports the idea that the Blue Monday Index may constitute a fair measure of the supervisors' success provided that comparisons are made only between departments of the same type.

It is now possible to separate departments into those with higher absenteeism and those with lower absenteeism.

Card Rooms		Spinning Rooms		Winding Rooms	
Higher absenteeism:					
No 1	No 3	No 1A & B	No 2A & B	No 1	No 2
Lower absenteeism:					
No 2	No 4	No 3A	No 3B	No 4	No 3

This division will be compared later with other measures of supervisory success, but it must be borne in mind that it has been derived from a lengthy analysis and that it can be used only with considerable caution in view of the fact that by far the largest differences in absen-

teeism are associated with different types of department, rather than with different overlookers.

This completes the analysis of the objective indices which were available and which might be used to measure the overlookers' success. A number of other analyses were made, *e.g.*, average length of service of leavers, labour stability rates, percentage of leavers with less than nine months' service, etc., but the same general picture emerged as in the case of the labour turnover measures discussed above. The analysis indicated that these measures were unreliable and they had to be discarded.

The two remaining measures were Operative Opinion and Management Opinion.

THE 'OPERATIVE SATISFACTION' CRITERION

One of the main purposes of the study was to obtain direct evidence of the attitudes of operatives to the personalities and practices of their supervisors. This was approached by means of confidential interviews with a sample of operatives from each department. It was not intended that any elaborate statistical analysis of comments made in these interviews should be carried out, as the number of interviews was comparatively small, averaging 28 operatives per overlooker, and because of the difficulty of scoring the comments.

The samples were made by picking one-sixth of the operatives in the department, at random, and then if necessary adding names if this basic sample failed to cover all the occupations represented in the department. In this way about one-fifth of the women in each department, and about one-quarter of all the men in non-supervisory posts were interviewed. In addition all junior supervisors were included in the sample.

The investigator intended to use these interviews in order to obtain a general impression of what operatives thought about the way they were supervised. For this reason the interviews were largely 'free'. The investigator opened each interview with a brief explanation of the

aims of the study, the reasons why it had been undertaken, and the method of sampling by which the interviewee had been selected.

One of the first findings that emerged from these interviews was the very considerable remoteness of the overlooker in the eyes of his operatives. The degree of remoteness was associated mainly with the size of the department, but it was clear too that it was to some extent associated with the personality of the overlooker. It was therefore necessary to encourage operatives to talk as freely as possible about their feelings about their jobs, their relationships with their fellow workers, their views about the Works Council, their views about their prospects, their satisfaction with their working conditions, lighting, heating, ventilation, etc.; their pay, their reasons for coming to work in the firm, the allocation of different types of work, and so on. In this way a general impression of the extent of satisfaction in each department was obtained.

In order to divide the overlookers into 'Best' and 'Remainder' from the point of view of operatives' satisfaction with supervision, the investigator carried out paired comparisons of all the overlookers. To do this he read through

all the notes of interviews with operatives in each department and, on the basis of the general impression, decided which overlooker of each pair it was more pleasant to work under. Thus every overlooker was compared with every other overlooker and the better given a score of one in every case, the other member of the pair scoring zero. In the case of a tie, each overlooker was given a score of a half.

With sixteen supervisors the possible score was 15, and the range found was $14\frac{1}{2}$ to $1\frac{1}{2}$. Breaking into three groups, those scoring 10 or more, those scoring 6 to 9, and those scoring less than 6, this gave:

7 Best	(by paired comparisons)
2 Marginal	(by paired comparisons)
7 Rest	(by paired comparisons)

In order to meet criticisms of the subjectivity of this approach, an analysis was carried out of all direct comments made about each overlooker. All comments were written down immediately after the interview had been concluded. These comments were sorted into six categories ranging from Very Favourable to Critical. Typical comments were as follows:

Critical

Moody. Awkward. Obstructive. Pedantic. "Shouts at you". "Can't trust him". "Not as competent as he should be". "Don't like him". "Isn't understanding". "Laughs at you". "Difficult to get on with". "Got an 'opposite complex'", "Won't listen".

Mildly Critical

Unapproachable. Forgetful. A "firm's man". "O.K., but I'm a bit scared of him". "Puts blame on you, but O.K. on whole". "Pretty slack". "Doesn't take charge". "Lax". "Hardly ever comes to see you". Oversuper-vises.

Absolutely Indifferent

Completely remote. "I'm indifferent".

Mildly Favourable

"All right". "O.K.". "Never bothers us".

Favourable

"Very nice". "Very decent". "Approachable". "Will listen". "I like him". "Very

fair". "Very decent chap". "Nice". "I'm always ready to oblige him". "Most helpful and friendly". "Always tries to help—isn't the sort of person who likes to see you mucked up". "Like a father".

Very Favourable

"Best overlooker I've ever worked for". "Best overlooker on the ground". "Champion". "Admirable". "Deep respect for him". "Very fair and knows his stuff". "Good headpiece and that's what matters". "Proper gentleman". "First class". "Never had such a nice overlooker".

The total incidence of comments in each category was:

No Comment ...	...	13%
Critical ...	...	5%
Mildly Critical ...	...	14%
Absolutely Indifferent ...	...	8%
Mildly Favourable	21%
Favourable	29%
Very Favourable	10%

Total number of interviews ...	453
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The overlookers were ranked in order for the percentage incidence of comments in the following way:

- (i) Very Favourable comments.
- (ii) Very Favourable + Favourable comments.
- (iii) Very Favourable + Favourable + Mildly Favourable comments.
- (iv) *Reverse order* for Critical comments.
- (v) *Reverse order* for Critical + Mildly Critical comments.

It was found that six overlookers appeared in the better half, *i.e.*, the first eight places, on each of these rankings. Four appeared in the better half twice or three times, and the remaining six appeared in the better half only once, or not at all. It was therefore decided to divide the overlookers on this basis into six 'Best', four 'Marginal', and six 'Rest'.

Comparing this sorting with the sorting by paired comparisons:

<i>Operative Satisfaction (by paired comparisons)</i>	<i>Operative Satisfaction (direct comments)</i>		
	Best	Marginal	Rest
Best	5	1	(1)
Marginal	1	1	
Rest		2	5

This classification by direct comments fits very well with the impressions obtained by the investigator except in one case, shown in brackets, which was a very small department employing only part-time workers. As the sample in this department was only 12 operatives, and this was obtained by taking a sample of a third instead of the standard one-sixth, it was felt that it would be best to exclude this overlooker. One other department was staffed almost entirely by part-time workers and the

sample, in this case based on the standard one-sixth, totalled only 15 operatives—the rating of this overlooker by the analysis of direct operative comment agreed closely with the investigator's impression, but because of the department's atypicality for size and proportion of part-time workers, this department too was excluded from the 'Operative Satisfaction' measures. This left a total of 14 overlookers divided into 5 'Best', 4 'Marginal', and 5 'Rest'.

It was considered more reasonable to base all comparisons on the 'direct comment' criterion of operative satisfaction with supervision, as this included more marginal cases and thus discriminated better between the 'Best' and the 'Rest'. All reference to the Operative Satisfaction Criterion from here on will refer to this measure.

THE MANAGERS' OPINION OF THE SUCCESS OF THEIR OVERLOOKERS

The rating form shown as Appendix (page 56) was developed by the investigator in conjunction with managers; it was intended to provide scales which would permit a manager to say where he thought each overlooker either succeeded or failed to meet the demands of his job.

Three managers completed rating forms for 16 overlookers and each form was checked and

countersigned by the General Manager. There was some internal evidence to suggest that whereas the detailed ratings were not comparable between one manager and another, the overall gradings were reasonably comparable if a simple break between 'Best' and 'Rest' were used. This completes the list of criteria of supervisory success used in this study.

THE INTER-RELATIONSHIP OF THE VARIOUS CRITERIA

As has been shown above, only one of the 'objective' indices — the measure of voluntary absenteeism — could be regarded as a reliable index. This index was available for 12 overlookers.

Comparing this index with the 'Operative Satisfaction Measure':

<i>Operative Satisfaction Measure</i>	<i>Voluntary absenteeism</i>	
	Lower absenteeism	Higher absenteeism
'Best'	3	2
'Marginal'	1	2
'Rest'	2	2

There is obviously no marked relationship

between the criteria in these 12 cases.

Comparing the index of voluntary absenteeism with the Managers' Overall Rating:

<i>Managers' Rating</i>	<i>Voluntary absenteeism</i>	
	Lower absenteeism	Higher absenteeism
'Best'	4	3
'Rest'	2	3

Again there is a negligible association between the criteria.

Comparing the Operative Satisfaction Measure with the Managers' Overall Rating (these indices were available for 14 overlookers):

<i>Managers' Rating</i>	<i>Operative Satisfaction Measure</i>		
	'Best'	'Marginal'	'Rest'
'Best'	2	1	4
'Rest'	3	3	1

This is a disturbing finding. There is a negative correlation between the Managers' Rating and the Operative Satisfaction Measure. With so few cases, of course, this negative association cannot be regarded as in any way significant—but it does seem to point a warning.

There was a sub-scale in the Managers' Rating Form asking the manager to indicate the overlooker's degree of 'Success with his Operatives'. If the two middle categories are grouped together the scale can be regarded as a

measure of 'High success', 'Moderate success', 'Lack of success' and 'Don't know enough about operatives' feelings to rate the overlooker'.

Comparing this classification with the 'Operative Satisfaction Measure':

<i>Managers' views</i>	<i>Operative Satisfaction Measure</i>		
	'Best'	'Marginal'	'Rest'
'High success'	1	1	3
'Moderate success'	2	3	1
'Lack of success'	1		
'Don't know'	1		1

Here again is the negative relationship which appeared in the case of the managers' overall ratings.

INDICATIONS FROM THE STUDY TO ASSIST IN THE SELECTION OF SUPERVISORS

In view of the absence of agreement between the criteria it appears desirable to examine the relationships of each of the criteria with various possible selection predictors separately instead of attempting to combine the criteria of success and then examining the relationship of the resultant criterion with the predictors.

INTELLIGENCE TEST SCORES AND THE MEASURES OF SUCCESS

The Raven Matrices (1938) Test was given as an untimed individual test to all the overlookers. One older man produced a pattern of scores which indicated that the result was not a valid assessment of his intellectual level; for this reason he was omitted from the sample. The relationship between the Operative Satisfaction Measure and the age-corrected percentile scores for each overlooker was:

<i>Raven Matrices Score</i>	<i>Operative Satisfaction Measure</i>		
	'Best'	'Marginal'	'Rest'
Above 80th percentile	4	1	2
75th-80th percentile		2	2
Below 75th percentile		1	1

With one exception the ages of these men lay between 43 and 49 years, so it is possible to use raw scores instead of age-corrected per-

centiles if one case is omitted. The range of scores is however small—52 to 38.

<i>Raven Matrices Raw Scores</i>	<i>Operative Satisfaction Measure</i>		
	'Best'	'Marginal'	'Rest'
45 or more	4	2	1
Less than 45		2	3

In the case of the Managers' Opinion of the overlookers there is no clear relationship with intelligence test scores:

	<i>Managers' Opinion</i>	
	'Best'	'Rest'
<i>Raven Matrices Percentile Scores</i>	95	95
	90	95
	85	85
	85	80
	80	80
	75	70
	70	60
		40

It will be clear from these figures that the overlookers were a highly selected group for intelligence, and it could hardly be expected that in so highly selected a group there would be any striking relationship between test scores and any criterion measure.

The relationship between intelligence test score and the voluntary absenteeism criterion is:

<i>Raven Matrices Score</i>	<i>Voluntary absenteeism</i>	
	Lower absenteeism	Higher absenteeism
Above 80th percentile	4	3
80th percentile and below	2	3

The association is practically zero.

The small positive association between intelligence test score and the operative opinion measure, together with the absence of any sort of negative association between intelligence test scores and the two other criteria, indicated that intelligence tests might be of value in supervisory selection, but an analysis of the relationship between test scores and the different grades of supervisory posts in the firm showed that the existing *ad hoc* selection procedures were already fairly effective in selecting for intelligence. (Table 3.)

It is still the case, however, that the use of intelligence tests in the selection procedure for supervisory posts would assist managers by making comparisons of men in different departments possible and tests could be used to screen all men entering the firm to ensure that talent

was reasonably evenly distributed and that intelligent men were not overlooked when vacancies occurred.

TECHNICAL EDUCATION AND THE MEASURES OF SUCCESS

The overlookers' technical education ranged from Higher National Certificate, full City & Guilds Certificate, through Lancashire and Cheshire Institute Certificate, to no technical education at all.

Comparing with the Operative Satisfaction Measure:

<i>Technical Education</i> Lancs. and Cheshire	<i>Operative Opinion</i>		
	'Best'	'Marginal'	'Rest'
Certificate or better	3	1	4
Less than Lancs. and Cheshire Certificate	2	3	1

There is little reason to suppose from these figures that operatives were judging their overlookers on the basis of the extent of their technical education.

The same picture appears in the case of the Management Opinion Measure.

Table 3

SCORES ON RAVEN MATRICES (UNTIMED) CORRECTED FOR AGE

					<i>Percentiles</i>												
					10	20	30	40	50	60	70	75	80	85	90	95	
Overlookers	...	...	...	...				1		1	2	1	3	3	1	3
Assistant Overlookers	...	...	...	...					2		1		1			
Undercarders, Maintenance Blow Room Majors			Jobbers	and				1	4		3	4	3	2	1	1	
Warehousemen	...	...	...	...							2			2	1	
Jobbers	...	...	...	...	1	1	1	4	4	2		2	5	1		1
Assistant Jobbers and Mixing Room Jobbers					1		2	1	2	1		1			1	1	

<i>Technical Education</i>		<i>Managers' Opinion</i> 'Best'	<i>Opinion</i> 'Rest'
Lancashire and Cheshire			
Certificate or better	...	4	4
Less than Lancashire and			
Cheshire Certificate	...	3	5

This is quite a striking finding in view of the efforts made by the firm to encourage men to undertake technical training by evening classes, etc.

LENGTH OF SERVICE AND THE MEASURES OF SUCCESS

It might be expected that the length of service as an overlooker, which would be a measure of a man's chance to profit by experience in supervisory duties, would correlate with operative satisfaction. This expectation is not borne out by this study.

<i>Length of Service as an</i> <i>Overlooker</i>		<i>Operative Opinion</i> 'Best'	<i>'Marginal'</i>	<i>'Rest'</i>
8 years or more	...	2	4	2
Less than 8 years	...	4		4

Nor did length of service correlate markedly with Managers' Opinion:

<i>Length of Service as an Overlooker</i>			<i>Managers' Opinion 'Best'</i>	<i>Opinion 'Rest'</i>
8 years or more	...	...	3	5
Less than 8 years	...	...	4	4

With so few cases, of course, it cannot be expected that slight tendencies will be apparent from a crude comparison of this sort, but at least this type of analysis does indicate that, if there are associations between these measures, they are comparatively slight.

SOCIAL INTERESTS AS A SELECTION INDICATOR

It has been suggested that one possible indicator for selection of supervisors is the presence of social interests, *i.e.*, liking to be with people in leisure time.

The overlookers were asked about their spare time interests and activities. The extent of their social interests was assessed on the basis of what they said about their use of their spare time in interviews with the investigator. They were divided into three categories on this basis.

Marked Social Interests

exemplified by:

Official position in Union or similar association. Membership of club. Activity with Youth Organizations. Active membership of Amateur Dramatic society. Membership of choir. Membership of Sports Clubs, etc., etc.

Moderate Social Interests

Moderately active membership in clubs. Meets friends in pub for game of darts or dominoes regularly. Plays snooker regularly. Member of church, etc., etc.

Few Social Interests

Fishing. Gardening. Reading. Very occasional cinema. Radio listener. Spends most of time at home and with family. Very rare and passive attendance at meetings or clubs.

Comparing with the Operative Satisfaction Measure:

<i>Overlookers' Social Interests</i>	<i>Operative Opinion</i>		
	'Best'	'Marginal'	'Rest'
Marked social interests	1	2	2
Moderate social interests	1	1	2
Few social interests ...	3	1	1

Comparing with the Managers' Opinion:

<i>Overlookers' Social Interests</i>		<i>Managers' Opinion</i> 'Best'	<i>'Rest'</i>
Marked social interests	...	3	4
Moderate social interests	...	1	3
Few social interests	...	3	2

Comparing with the Voluntary Absenteeism Measure:

<i>Overlookers' Social Interests</i>	<i>Voluntary</i> Lower absenteeism	<i>Absenteeism</i> Higher absenteeism
Marked social interests ...	2	2
Moderate social interests	0	3
Few social interests ...	4	1

These findings do *not* support the suggestion that marked social interests are a positive indicator for selecting supervisors, indeed there is a tendency in the opposite direction. This is clearer if only two categories are used in each case: combining Marked + Moderate Social Interests gives the following tables:

				<i>Operative Opinion</i>		<i>Managers' Opinion</i>		<i>Voluntary Absenteeism</i>	
				'Best'	'Marginal' + 'Rest'	'Best'	'Rest'	Lower	Higher
Marked + Moderate Social Interests ...				2	7	4	7	2	5
Few Social Interests				3	2	3	2	4	1
				(14 cases)		(16 cases)		(12 cases)	

(The number of cases under each of the criteria of success is different because, as has been explained earlier, it was not possible to obtain reliable measures on each of the criteria for all overlookers.)

Had the expectation that social interests are associated with success been realised these tables would have been of the form:

				<i>Success Measure</i>	
				'Best'	'Rest'
Marked + Moderate Social Interests				11	0
Few Social Interests ...				0	5
				(16 cases)	

In fact, as will be seen, the tendency is in the opposite direction for all the success measures, for the larger figures appear in the other diagonal. It remains to be shown, however, that the failure of social interests to predict success is not due to the masking effect of a marked correlation between high intelligence and a lack of social interests in this group of overlookers.

Omitting one case the ages of the overlookers lay between 43 and 49 and within this group of overlookers of similar age the relationship of social interests to Raven Matrices Raw Scores is:

				<i>Raven Matrices Raw Score</i>	
				45 or more	Less than 45
Marked				2	4
Moderate				2	2
Few				3	1

It is clear that there was an association between intelligence and social interests in this group, and that it was of the same order as the association between Managers' Opinion and Social Interests.

If age corrected percentile scores are used instead of raw scores, the association becomes:

		<i>Raven Matrices Age Corrected Percentile Scores</i>		
<i>Social Interests</i>		Above 80th	75th to 80th	Below 75th
Marked	...	1	3	3
Moderate	...	3	1	
Few	...	3		1

Thus the apparent predictive value of relatively few social interests may, in this case, be due to the association of intelligence with few social interests in this restricted group. Unfortunately the number of cases is so small that the technique of partial correlation cannot be applied to decide the issue.

Consideration of the comments made by operatives in their assessment of the overlookers throws some light on the reasons why some overlookers were disliked, and these reasons tend to indicate that extroverted behaviour was less acceptable to the operatives. It will be seen that the comments grouped under the heading 'Critical' include a preponderance of such expressions as "Laughs at you"—"Isn't understanding"—"Shouts at you"—"Won't listen". These statements appear to be descriptive of extrovert rather than introvert characteristics, and it is to be expected that marked social interests are more common amongst extroverts.

These considerations led the investigator to rate the overlookers for introversion—extroversion, on the basis of his knowledge of their leisure interests, his observation of their behaviour during the course of the study of their work, and his observation of their behaviour in the overlookers' meetings during which they were in a completely informal atmosphere. The association between these ratings and the operative satisfaction measure was:

Investigator's Rating	Operative Satisfaction		
	'Best'	'Marginal'	'Rest'
Quiet, reserved, listens rather than talks, slightly introverted ...	4	1	1
Midway ...		1	1
Talkative, extroverted, lively, vivacious ...	1	2	3

CONCLUSION AND CAUTIONS

This study is an example of an attempt to find reliable measures of supervisory success in a single firm, where the supervisors' departments were very large in comparison with the numbers controlled by most foremen of equivalent level, and where the large majority of operatives were women.

No claims are made that any findings from this study can be generalised to other firms, indeed it would be unwise to attempt to apply any of them even in firms engaged in the same industry and employing a comparable proportion of women operatives.

Detailed analysis of objective data on labour turnover and absence rates yielded only one reliable criterion, and even that one cannot be accepted without reservation. No attempt has been made to demonstrate the reliability of the other two criteria—the managers' opinions, and the operative satisfaction measure. It is not unreasonable to assume that the management opinion criterion had an acceptable degree of reliability in view of the fact that the average length of service of the overlookers in their present posts was about 8 years, and that their managers had known them for anything between 6 and 30 years. There were no indications that the managers' judgments had any marked day to day or week to week variability.

The operative opinion measure is of quite unknown reliability. It was the investigator's impression that operatives were basing their assessments on a general view of their relationships with their overlooker over a considerable period of time, and for this reason it is unlikely that there would be a marked day to day variation in this measure. The high consistency of the remarks made by operatives from the

This association is sufficiently striking to suggest that future investigations of supervisory success should attempt to test the generality of this finding.

same department also suggests that this criterion is reliable, but this has not been proved.

The detailed comparisons of the criteria with each other and with various 'selection predictors' cannot justify any definite conclusions as the number of cases is so small, but in view of the fact that the ultimate test of findings from this kind of research is their usefulness *within single firms* where the number of foremen in charge of similar departments is usually very small, research techniques which are dependent on large samples are of little practical utility.

The results from this study indicate very clearly the difficulty of obtaining reliable measures of supervisory success which discriminate between individual foremen within a firm, when the general level of supervisory performance is high—as indeed it was in this case. There will, of course, be many occasions on which clear discrimination between 'good' supervision and 'inadequate' supervision is possible, but in most cases individual firms can be expected to have achieved a moderately uniform standard of supervision, and in the absence of agreed and reliable criteria the assessment of relative supervisory success within the firm will remain a problem.

This study indicates the desirability of including some direct measure of operative opinion amongst the criteria of supervisory success, as it cannot safely be assumed that managers are in a position to judge the extent of foremen's acceptability to the workers they supervise. Moreover the findings indicate the danger of using 'objective' criteria, such as labour turnover and absence rates, without a detailed analysis of the reliability of these measures.

APPENDIX

CONFIDENTIAL

MANAGERS' REPORT ON OVERLOOKERS

Consider each of the following rating scales separately and put a tick against the description which most closely fits the overlooker concerned. Cross out or alter any parts of the statement which definitely do not apply.

Name..... Position..... Room..... Mill.....

Has held his present job for years. I have known him for years.

Technical Skill and Knowledge

- ☐ Knows a great deal about the machinery in his department and keeps himself up to date on recent technical developments. Has a thorough grasp of the theory of cotton spinning, or carding, or winding, or doubling.
 - ☐ Has a practical understanding of the machinery in his department but his knowledge of theory is rather limited.
 - ☐ Knows enough about most of the machinery in his department but is not sufficiently knowledgeable about some of it.
 - ☐ His practical understanding of the machinery in his department is inadequate.
-

- ☐ Is nearly always able to diagnose the source of bad machine operation and knows how to get the fault remedied.
 - ☐ Can usually diagnose the source of bad machine operation and makes reasonable suggestions about how to get the fault remedied.
 - ☐ Usually able to recognise faulty machine operation but rarely has sound suggestions to make about remedies.
 - ☐ Recognises faulty machine operation when his attention is drawn to it but his suggestions about remedies are rarely appropriate.
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- ☐ Displays keen interest in the technical side of his work. Makes valuable suggestions about possible improvements.
 - ☐ Shows interest in the technical side of his work. Reads textile journals and asks about the possibilities of making improvements suggested in them. Sometimes makes useful suggestions about improvements he has thought of himself.
 - ☐ Interested in the technical side of his work but rarely shows active attempts to find out more about techniques.
 - ☐ Shows very limited interest in the technical side of his work and never makes more than very trivial suggestions.
-

Organising Ability

- ☐ Is completely reliable in planning the work of his department. Knows the productive capacity of his machines and makes long range plans to ensure maximum production. Is readily able to meet emergency changes with the minimum of lost time.
 - ☐ Can be relied on to keep his department running smoothly but his planning is rather short range and he has to make quite a lot of short range adjustments to his schedules.
 - ☐ His planning is adequate as far as his own department goes but his frequent adjustments of his schedule cause some difficulty for other departments which could be avoided if he planned more thoroughly and at longer range.
 - ☐ Lacks planning ability. Causes considerable inconvenience to other departments. His own department would run from hand to mouth if he were not carefully supervised.
-

Acceptance of Responsibility

- ☐ Fully accepts the responsibility for the running of his department. Sometimes tends to take on responsibility which is more properly within the scope of the Inside Manager, but is reasonable and co-operative on such matters. Very rarely asks for advice or instructions on matters of detail.

- ☐ Accepts responsibility for routine running of his department but tends to be rather reluctant to face the major decisions himself, and refers such matters to his Manager, usually asking for approval for a course of action that he himself suggests.
- ☐ Tends to show reluctance to accept responsibility. Takes up rather too much of his Manager's time in informing him of decisions he has made on points of detail, in order to cover himself against possible criticism. When faced with major decisions goes straight to his Manager, usually without suggesting a reasonable course of action for approval.
- ☐ Definitely unprepared to accept the responsibility of running his own department. Passes the buck.

Attitude to his own Authority

- ☐ Regards his authority solely as a tool in getting his job done. Does not put on any airs because of his powers. Regards his jobbers as equals in all respects except that he is responsible for seeing that the department runs properly and that they are there to help him to run it.
- ☐ Rather uncertain about holding authority. Sometimes tries to take an extremely strong line in order to assert his authority and at other times tends to behave as if he refused to recognise his role as a leader. Gets on pretty well with his operatives and his jobbers but they are never quite sure where they stand with him.
- ☐ Rather autocratic in his relations with his operatives. Tries to dominate his jobbers rather than to work with them as a team.
- ☐ Definitely refuses to assert the authority appropriate to his role. Always goes to his Manager for support in getting an instruction obeyed. Gives orders to his subordinates as coming from "The Manager" rather than from himself.

Attitude to his Manager

- ☐ Friendly, helpful, co-operative and prepared to see the Manager's point of view about the running of the department, but ready to stand up for himself and say what he really thinks ought to be done even if this is not in agreement with his Manager's view.
- ☐ Always seems to be a bit on the defensive. Resents any criticisms of the running of the department and tries to justify himself even when the Manager does not intend to criticise him. Tries to impress his subordinates that he is on their side against the criticisms of 'the management'.
- ☐ Obsequious and deferential. Never stands up to his Manager. A 'Yes man'. His extreme loyalty is embarrassing.
- ☐ Antagonistic and awkward. Treats his Manager as a threat to his own authority in his department. Doesn't like having his Manager talk to his jobbers or operatives except when he is there himself.

Attitude to his Job as a Supervisor

- ☐ Regards supervision as a skilled occupation. Sees his task as helping his operatives to earn good wages in as efficient and pleasant a way as possible. Keen on high production and efficient organisation. Business-like.
- ☐ Likes being a supervisor because he feels that it provides an opportunity of helping his workers to lead happy lives. More interested in people than in productivity. Welfare conscious.
- ☐ Sees himself as a buffer between the production demands of 'the management' and the 'natural' reluctance of his operatives to do any more work than they need. Feels that supervision is not really a skilled task but a harassing responsibility. Not happy as a leader.
- ☐ Believes that the best incentive is the fear of unemployment. Unhappy because full employment robs him of the weapon he needs to enforce discipline and force his operatives to get on with the job. Antagonistic to new-fangled schemes like joint consultation.

Success with his Operatives

- ☐ Is highly regarded by his operatives. They regard him as firm, fair and approachable. Has little trouble with labour turnover and handles timekeeping troubles and absenteeism with good results. People ask to be put in his department.
- ☐ Most of his operatives like him, but a few are afraid of him or are able to take liberties and get away with things. Has some difficulty with labour turnover—particularly amongst the younger workers. Has a few persistently bad time-keepers about whom he seems to be unable to do anything except ask permission to dismiss them.
- ☐ Most of his operatives like him but they don't really know him very well. He is rather remote and they are reluctant to approach him about problems about their work and hesitate to give a frank explanation of their reasons for bad timekeeping or absence.

- ☐ Not well liked—people try to get moved into other departments. Regarded as inefficient or a bully.
 - ☐ I don't know much about his success with his operatives. I have no more nor less trouble about individuals asking to see me after having failed to get satisfaction from him than I have from most of my other overlookers.
-

Intelligence

- ☐ Highly intelligent, a good candidate for promotion to a managerial position as far as his quick grasp of essentials goes.
 - ☐ Markedly superior to most overlookers. Worth consideration for promotion as far as intelligence goes.
 - ☐ Adequately quick on the uptake. Unlikely to make the grade in a more demanding job.
 - ☐ Not really bright enough. A bit out of his depth already.
-

Level of Activity

- ☐ A high powered individual. Gets through a great deal of work without showing strain. Seems to have plenty of spare time despite the fact that he gets through all his work. Looks for new fields for activity.
 - ☐ Active and vigorous. Keeps on top of his work but occasionally gets a bit pressed in his attempts to keep up to date.
 - ☐ Working to his limit. Sometimes gets a bit behindhand but usually manages to catch up without creating even a minor breakdown in the running of his department. Limits the scope of his job to prevent himself from being overburdened.
 - ☐ Thinks he is overworked. Can't keep up and lets things go by default. Harassed or just lazy.
-

Memory

- ☐ Remarkable memory for relevant facts. Knows exactly where things are and who is responsible for what. Hardly needs any notebooks, though he may keep them.
 - ☐ A good memory. Knows where to find out even when he can't remember exact details. Only occasionally forgets important instructions and never needs to be reminded more than once.
 - ☐ Average memory. Not always able to remember the really relevant facts but can usually get pretty near the right answer. Sometimes needs to be reminded more than once about instructions.
 - ☐ Not a good enough memory for the job. Has to be reminded too often.
-

Observation

- ☐ Is extremely observant both about his machinery and about his people.
 - ☐ Is reasonably observant about his machines and his people.
 - ☐ Not really observant enough.
 - ☐ Definitely fails to notice important things which affect the efficiency and morale of his department.
-

Quantity, Quality and Costs of Production

- ☐ I am fully satisfied with the quantity, quality and costs of production in his department.
 - ☐ On the whole I am satisfied with the quantity, quality and costs of production in his department.
 - ☐ On the whole I am not satisfied with the quantity, quality and costs of production in his department.
 - ☐ I am definitely not satisfied with the quantity, quality and costs of production in his department.
-

Overall Suitability as an Overlooker: (Tick the circle at which or between which descriptions fit best)

- ☐ A first class overlooker.
☐
☐ A good overlooker.
☐
☐ Quite acceptable as an overlooker.
☐
☐ Doesn't quite make the grade.
☐
☐ I am looking for a way of getting rid of him.

Overall Suitability for Promotion to a Managerial Post

- ☐ A very good candidate.
☐ A good candidate.
☐ Possible.
☐ Unlikely.
☐ Definitely out of the running.

Note: (Say if you think he might develop into a better candidate when he is a bit older, or give any other points you think are relevant).

General Remarks (Give any additional comments you wish. Say if you feel that the ratings above have done him more or less than justice. Say if you felt uncertain about any particular points. Say if you think the rating scales have missed any important points).

Manager No. Mill.

Signature.....

Date.....

I agree

I disagree for the following reasons:

General Manager.....

Date.....

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